FINANCIAL HISTORY

THE MAGAZINE OF THE MUSEUM OF AMERICAN FINANCE

ISSUE 100
SPECIAL DOUBLE EDITION

SPRING/SUMMER 2011 | $6.00

FINANCIAL HISTORY

THE MAGAZINE OF THE MUSEUM OF AMERICAN FINANCE

in association with the Smithsonian Institution

Issue 100 • Spring/Summer 2011
(ISSN 1520-4723)

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Images from 22 years of exhibitions at the Museum of American Finance.

Museum Participates in Financial History Cruise

Founder's Letter

John Herzog | Founder and Chairman *Emeritus*

By now, you have likely received the announcement of the "Aegean Odyssey" trip aboard the splendid *Sea Cloud II* square rigged sailing ship during the last two weeks of July. This is the Museum's first sponsored trip, and the itinerary, from Istanbul to Athens with stops at Ephesus, Bodrum, Navplion and other ancient centers is very exciting. My wife, Diana, and I have been on the *Sea Cloud* before, and it is a lovely way to travel, very comfortable and great food!

The Museum's chairman, Dr. Richard Sylla, who is the Henry Kaufman Professor of Financial History at the NYU Stern School of Business, will be on the trip and will share with the group the business dealings of the ancient world through modern times, a most interesting view into the culture. Ancient coins have become increasingly popular with collectors in this context.

Dr. Kathryn Calley Galitz, Assistant Museum Educator at The Metropolitan Museum of Art, will also be aboard the ship and will lecture on the art and architecture of the cities we visit.

Diana and I will be going on this trip, and we hope you will join us. It promises to be great fun, and we would welcome the opportunity to spend some relaxed time with you. If you haven't received the brochure, please let Jeanne Driscoll know (jdriscoll@moaf.org), and she will send one along. We hope to be saying, "Welcome aboard!" $

The *Sea Cloud II*

CORPORATE AND FOUNDATION SUPPORT

The Museum is most grateful for the support of the following corporations and foundations who have generously provided funding for the Museum in the past year.

- A & E Television Networks
- American Express
- Anonymous
- The Asher Family Foundation
- The Briar Foundation
- Carter, Ledyard & Milburn, LLP
- CME Group
- Consolidated Edison Co. of New York
- The Curtain Foundation
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- Friedman Family Foundation
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- The Guardian Life Insurance Company of America
- Henry & Elaine Kaufman Foundation
- Herzog & Co., Inc.
- IGS Energy
- ING Americas
- Institute for Private Investors
- MacDonald & Cie
- Makovsky + Company Inc.
- The McGraw-Hill Companies
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- Nemco Brokerage, Inc.
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- Peter G. Peterson Foundation
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- Wreyford Family Foundation

► For information about supporting the Museum's activities and programs, please contact Jeanne Baker Driscoll, Director of Development, at 212 908-4694 or jdriscoll@moaf.org.

JUNE 3 1775 The national debt of the United States is born, as the Continental Congress authorizes a loan of six million pounds sterling to buy gunpowder.

JUNE 6 1934 The Securities Exchange Act is signed into law by President Franklin D. Roosevelt, creating the SEC.

Museum Presents 100th Edition of Magazine and Announces New Initiatives

Message to Members

David J. Cowen | President and CEO

The Museum is lifting off on many fronts. The clearest example is in the continually increasing visitorship, as we are on track to break last year's record numbers. We now average over 170 visitors per day and more than 500 school groups per year, and there is a palpable energy on the exhibit floor. Why? In large part because our exhibits make finance fun and not intimidating. We interpret finance in an easy and understandable fashion and, therefore, consistently meet or beat visitor expectations. Because of this our membership is also at record levels.

We believe that our mission to interpret financial concepts in an engaging manner is also reflected in this, the 100th edition of *Financial History* magazine. This issue features articles on all of the Museum's main subject areas, from the capital markets, money and banking to entrepreneurship, real estate, insurance and printing and engraving. We welcome several new and distinguished writers to our magazine with this issue, including award-winning authors Sebastian Mallaby and Ben Tarnoff. We have also included a list of the Top 100 Financial History Books, as voted by the Museum's members, which we hope you will find useful as you make your summer reading list.

Our education program continues with 10 classes and seven senior educators. We have taught more than 125 classes since the inception of this program about a year ago. ING has recently sponsored an initiative for Title 1 schools to visit the Museum and take classes. And this fall we will partner once again with Junior Achievement to host Finance Park. Thousands of New York City school students will visit the Museum and participate in this financial literacy program.

The Museum's Board of Trustees is engaged and invigorated. Under Richard Sylla's leadership we recently welcomed five new board members including Charles Wait, one of the nation's premier community bankers and former member of the New York Federal Reserve Board; Andrea de Cholnoky, a senior member of executive search firm Korn/Ferry; Professor Charles Elson of the University of Delaware, one of the nation's foremost corporate governance specialists; Kirk MacDonald, managing partner of MacDonald & Cie, whose business interests include ownership of the Museum's home at 48 Wall Street; and Robert Muccilo, a senior executive with Consolidated Edison.

The Downtown Culture Pass, a joint ticket for eight cultural institutions in Lower Manhattan which was initiated by our Museum, shows strong promise and is now part of Mayor Bloomberg's program to boost downtown visitorship.

Our affiliation with the Smithsonian moves from strength to strength as we have displayed high-profile objects including the solid gold and jewel encrusted Monopoly set, on loan from the National Museum of Natural History. The Smithsonian recently asked me to join an Affiliates Advisory Board, comprised of a select group of presidents and directors of Smithsonian Affiliate institutions. I was happy to accept this invitation, and it again demonstrates the Museum's growing significance.

The Kaufman Lecture Series is robust with headline speakers this year including Jack Bogle and Richard Brookhiser, as well as partnership events with the Harvard Business School Alumni Club, the American-Scottish Foundation, the National Park Service and our third annual event with the Sierra Club. And this fall we will be hosting events in this series with such luminaries as Abby Joseph Cohen and Gretchen Morgenson. Also on the horizon are upcoming exhibits on presidential finances, gold and hedge funds.

Thank you for your support, and we look forward to continued success. $

JUNE 9 1940 Federal income tax withholding is implemented for the first time.

JUNE 16 1903 Henry Ford launches the Ford Motor Co. in a refurbished wagon factory in Detroit, with $28,000 raised from 12 investors.

JULY 1 1720 Stock in the South Sea Company hits 950 pounds per share. Over the next four months, it loses roughly 80% of its value.

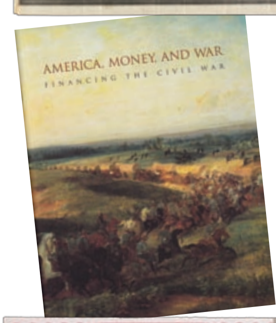
MU$EUM OF AMERICAN FINANCE

Exhibition Retrospective: 1989 – 2011

A Retrospective of the American Capital Markets
January – April 1989

Alexander Hamilton: First Secretary of the Treasury
September – December 1989

The History of Stock Certificates
April 1992 – March 1993



America, Money and War: The Financing of the Civil War
April 1993 – March 1994

70 Years of American Mutual Funds
April – October 1994

Gems from the Collection
May – December 1995

200 Years of the American Bank Note Company
December 1995 – October 1996

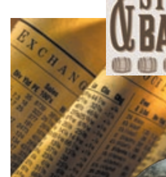
Connecting the Nation: A Tale of Two Rails
December 1996 – December 1997

Rags to Riches: Financing the American Revolution
January – November 1998

Going Public: Initial Public Offerings
December 1998 – June 1999

Rockefeller Rediscovered
July – December 1999

Locks, Stocks and Barrels: Erie Canal and New York
January – June 2000



Free Markets, Free Press
June – December 2000

The Artistry of African Currency
January – March 2001

MORGAN
April – December 2001

JULY 2 1890 The Sherman Anti-Trust Act becomes law, authorizing the US Department of Justice to break up giant monopolies.

JULY 2 1962 Sam Walton, a struggling retailer from Oklahoma, opens an 18,000-square-foot discount store called Wal-Mart.

America's Coin Banks
January – March 2002

Born in New York: Wells Fargo — 150 Years of Entrepreneurial Spirit
March – September 2002

High Notes
October 2002 – February 2003

The Nobel Prize: Celebrating 100 Years of Creativity and Innovation
March – September 2003

Pan Am and the Golden Age of Air Travel
June 2003 – May 2004

Do It Yourself: Small Business Successes
September 2003 – May 2004

Coming Up on the Season: Migrant Farmworkers in the Northeast
May – November 2004

Ring it Up
May 2004 – January 2005

Survival of the Fittest: The Evolution of the Dow Jones Industrial Average
February 2005 – December 2006

Making Money: Bank Note Engraving and the Fight Against Counterfeiting
February 2005 – December 2006

Art of the Exchange
January – November 2008

Trading on the Street
November 2008 – May 2009

Tracking the Credit Crisis
June 2009 (ongoing)

Women of Wall Street
June 2009 – March 2010

Actiën Handel: Early Dutch Finance and the Founding of America
September – October 2009

Scandal! Financial Crime, Chicanery and Corruption that Rocked America
April 2010 – August 2011

America's First IPO
September 2010 – March 2011

Alexander Hamilton: Lineage and Legacy
April – December 2011

JULY 6 1785 Congress declares that "the money unit of the United States of America be one dollar."

JULY 8 1932 In the depths of the Great Depression, the DJIA closes at 41.22 — its lowest point since June 1897.

JULY 13 1952 Wells, Fargo & Co. is founded by Henry Wells and William Fargo.

The History of *Financial History*

By Kristin Aguilera

This issue marks the 100th edition of *Financial History*, and offers a fitting opportunity to reflect on the magazine's own rich history.

Founded in 1978 as *Friends of Financial History*, the publication was originally an eight-page black and white pamphlet published by R.M. Smythe, an auction firm specializing in the relatively new hobby of collecting stock and bond certificates, called scripophily. According to the front cover of the first edition, the new publication offered articles on financial history, as well as auction news and information geared towards an audience of financial document collectors.

In 1982, *FFH* underwent the first of several major redesigns, as it expanded to 82 pages and featured a dealer directory and certificate price guide. It was also reduced to a smaller trim size and featured a two-color cover, while the interior was still printed in black and white.

The Museum of American Finance, founded in 1988, acquired the publication in 1990 and again implemented a new design. The Museum's premier issue appropriately featured the institution's

JULY 27 1694 The Bank of England opens for business in London to print currency and manage the national debt.

AUG 2 1909 The Indian Head cent that was minted from 1859 to 1909 is replaced by the Lincoln cent.

patron saint, Alexander Hamilton, on its first full-color cover. At that time it was reformatted to its current size, and the certificate price lists and dealer information were removed.

The following year, the Museum appointed an editorial advisory board comprised of journalists, historians and academics to oversee the magazine's content. Over the coming years the editorial board shifted the magazine's content focus to appeal to a broader audience of people interested in business, economic and financial history. Auction news became a much smaller department, and news about the Museum's exhibits and programs became prominently featured.

In 1997, the editorial board voted to shorten the magazine's title to *Financial History*. Two years later, *Financial History* became the Museum's official membership magazine. The editorial focus was honed to conform to the Museum's primary mission areas, namely to provide informative articles about the history of the financial markets, money, banking and entrepreneurship to an audience that ranged from students to professors and financial professionals to investors.

This 100th edition is the only issue to be published in full color, which has enabled the Museum to show off in greater detail the beauty of the materials it collects and exhibits. We hope you enjoy reading it as much as we have enjoyed publishing it. $

Kristin Aguilera is the Museum's deputy director. She has been the editor of Financial History *magazine since 1997.*

AUG 16 1841 President John Tyler vetoes the third Bank of the US, leading to a riot at the White House.

AUG 23 1976 Vanguard launches the first retail index fund, called First Index Investment Trust.

AUG 30 1930 Warren Edward Buffett is born in Omaha, NE.

Can Capitalism Survive? Joseph Schumpeter's Ironic Answer

By Dan Cooper and Brian Grinder

In October of 2008, a *Washington Post* staff writer wrote, "The worst financial crisis since the Great Depression is claiming another casualty: American-style capitalism." Since the financial meltdown, many have questioned the viability of the capitalist system, and some have wondered if Joseph A. Schumpeter's reply to the question "Can capitalism survive?" was right after all. Schumpeter's answer, "No, I do not think it can," has kept economists scratching their heads in puzzlement since his book *Capitalism, Socialism and Democracy* was first published in 1942.

Schumpeter was born in 1883 in Moravia and was educated in Vienna and Berlin. For a time he lived in Cairo where he worked in a law firm and managed the financial affairs of an Egyptian princess. In 1911, he began his teaching career at a university in Czernowitz, which was then part of the Hapsburg Empire but is now part of Ukraine. In 1919, he temporarily left academia for a turbulent but brief stint as minister of finance in the new socialist government of Austria. Schumpeter left Europe in 1932 to teach at Harvard University where he continued to teach until his death in 1950.

Capitalism, Socialism and Democracy (*CSD* hereafter), Schumpeter's best-known work, was written in the United States during the Great Depression and published in the midst of World War II. It begins with an insightful analysis of Marxism, and then turns to a masterful defense of capitalism. "Radicals," Schumpeter notes, "may insist that the masses are crying for salvation from intolerable sufferings and rattling their chains in darkness and despair, but of course there was never so much personal freedom of mind and body *for all*, never so much readiness to bear with and even to finance the mortal enemies of the leading class, never so much active sympathy with … sufferings, never so much readiness to accept burdens, as there is in modern capitalist society." He also contends that capitalist nations tend to be more pacifistic than non-capitalist nations and that the arts and culture overall have benefitted tremendously from capitalism. But Schumpeter takes an unexpected turn when he concludes that although the capitalist process has the potential "to lift poverty from the shoulders of mankind," this in and of itself is not sufficient grounds for allowing the process to continue.

According to Schumpeter, two forces are at work in capitalism. The first force is that of the entrepreneurial elite. These are the people who make capitalism work as they develop new and innovative ways of doing things. These new processes and products create wealth for the entrepreneur, but they also upset the established system and force the demise of businesses that are unwilling or unable to change and adapt. Schumpeter calls this process creative destruction. The second force is resentment, which arises when entrepreneurs destroy old processes and procedures. There is resentment among the masses when entrepreneurial activity creates unemployment and economic upheaval, but the resentment of the intellectuals, who were comfortable with the old ways of business, is of greater concern to Schumpeter. He argues that intellectuals will end capitalism because they have both the motive and the means to do so.

Schumpeter's students at Harvard didn't quite know what to make of him. Paul Samuelson, for instance, argued that Schumpeter's contention that the success of capitalism would result in its own demise was illogical. Furthermore, Samuelson found his definition of capitalism to be "over-narrow" while his definition of socialism was "over-broad," making him "too cavalier in his expectations that capitalism would die and be succeeded by socialism."

Samuelson also puzzled over Schumpeter's apparent admiration of Marx. Another student, Robert Heilbroner, wrote a chapter entitled "The Contradictions of Joseph Schumpeter" for his book *The Worldly Philosophers*. Heilbroner felt that Schumpeter's weakness as an economist came about because "… the cutting edge of his insight was gained at the expense of the strict economic logic that gave such power to the visions of the classical seers."

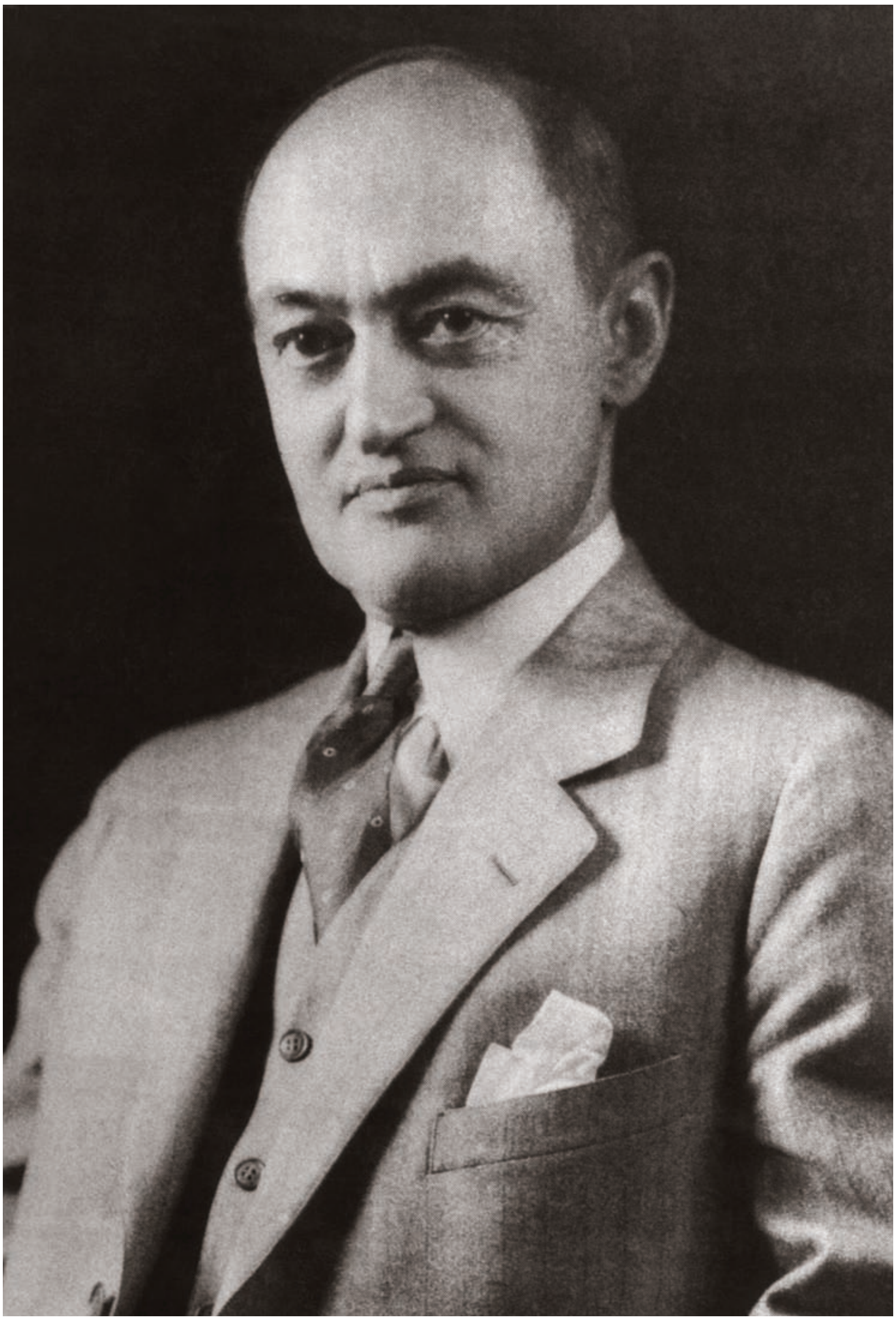
It was also apparent to Heilbroner that his teacher did not believe that the extreme economic stresses of the 1930s meant the end of capitalism. Heilbroner recalled, "When he lectured on the economy at Harvard in the midst of the Depression, Joseph Schumpeter strode into the lecture hall, and divesting himself of his European cloak, announced to the startled class in his Viennese accent, 'Chentlemen, you are vorried about the Depression. You should not be. For capitalism, a depression is a good cold *douche*.' Having been one of those startled listeners, I can testify that the great majority of us did not know that a douche was a shower, but we did grasp that this was a very strange and certainly un-Keynesian message."

While Samuelson puzzled over Schumpeter's admiration of Marx, Heilbroner exhibited some understanding of this when he wrote, "But notice the remarkable thing about Schumpeter's argument. He has beaten Marx on his own ground. He surrenders to Marx in what seems to be the crucial point of contention, namely whether capitalism can survive. But he has bested Marx by demonstrating — or at least arguing — that capitalism will give way to socialism for Schumpeter's reasons, not for Marx's! Marx is accorded every honor, but Schumpeter's view nonetheless carries the day." This is an excellent but incomplete insight into Schumpeter. For a better understanding of Schumpeter, we must turn to a historian.

Intellectual historian Jerry Z. Muller argues that *CSD* must be understood in the context in which it was written. He contends that fear of socialism was

actually the driving force behind Schumpeter. However, the prevailing sentiment during the 1930s, especially at universities such as Harvard, favored socialism over capitalism. Schumpeter, realizing that a direct assault on socialism would have little effect, resorted to a strategy of irony. According to Miller, although Schumpeter's graduate students "were reflexively hostile to his message, he nevertheless 'slyly got across one point after another'… Irony served as a battering ram with which to open minds."

By initially appearing to attack capitalism, he was able to put arguments across in favor of capitalism that the unsuspecting left-leaning intellectual would never have had the patience to consider in a work that was obviously attacking socialism. One of Schumpeter's students described this as the Mark Anthony technique. "By coming first to 'bury Caesar not to praise him' (capitalism is doomed) he was able to get people to read him who would otherwise not have sat still for a moment under his teaching. 'Brutus' moreover is 'an honorable man' (socialism is workable). Having conceded that much he was then able to insinuate one of the most able defenses of capitalism ever published."



Economist Joseph Alois Schumpeter (1883–1950).

Muller notes that in irony "the stated may be the opposite of the intended." Thus when someone reads *CSD* without recognizing the ironic intent, the message is totally lost and Schumpeter appears to be contradictory and illogical. Though many of today's quantitatively trained economists have little use or patience for irony, they could benefit from a reading of *CSD* in its proper context. Schumpeter gave the best reason for reading *CSD* in the preface to the second edition (1946) where he wrote, "Now this is precisely where I wanted to serve the reader. I did want to make him think."

At least one reviewer of *CSD* in the 1940s understood Schumpeter's ironic intent. Fritz Machlup's review in *The American Economic Review* described *CSD* as "a humorous-ironic rococo." While the humor in *CSD* is obvious, the irony is not. Let's look at a couple of examples of Schumpeterian humor. When commenting on Marx's contempt for the idea that those with superior intelligence, who are more energetic workers and savers, become capitalists, Schumpeter hilariously asserts that "to call for a guffaw is no doubt an excellent method of disposing of an uncomfortable truth, as every politician knows to his profit." Later on he takes another jab at Marx: "…there is little reason to believe that this socialism [as defined by Schumpeter] will mean the advent of the civilization of which orthodox socialists dream. It is much more likely to present fascist features. That would be a strange answer to Marx's

prayer. But history sometimes indulges in jokes of questionable taste."

In 1994, the university in Czernowitz, where Schumpeter began his academic career, held a special summer session celebrating Schumpeter. A *CSD* reviewer commenting on the event wrote, "So, a scholar widely known for predicting a painless transition from capitalism to socialism is today studied in the East for clues on how to get back from socialism to capitalism." The irony would not be lost on Schumpeter. $

Dr. Dan Cooper is the president of Active Learning Technologies. Brian Grinder is a professor at Eastern Washington University and a member of Financial History's *editorial board.*

Sources

Faiola, Anthony, 2008, The End Of American Capitalism? *The Washington Post*, A.1.

Fox, Justin, 2009, *The Myth of the Rational Market: A History of Risk, Reward, and Delusion on Wall Street* (Harper Business, New York).

Giersch, Herbert, 1984, The Age of Schumpeter, *The American Economic Review* 74, pp. 103–109.

Haberler, Gottfried, 1950, Joseph Alois Schumpeter 1883–1950, *The Quarterly Journal of Economics* 64, pp. 333–372.

Heilbroner, Robert L., 1953, *The Worldly Philosophers: The Lives, Times, and Ideas of the Great Economic Thinkers* (Simon and Schuster, New York).

Machlup, Fritz, 1943, Capitalism and its Future Appraised by Two Liberal Economists, *The American Economic Review* 33, pp. 301–320.

McInnes, Neil, 1995, Wrong for Superior Reasons, *National Interest*, 85–97.

Muller, Jerry Z., 2003, *The Mind and the Market: Capitalism in Western Thought* (Anchor Books, New York).

Muller, Jerry Z., 1999, Capitalism, Socialism, and Irony: Understanding Schumpeter in Context, *Critical Review* 13, 239.

Samuelson, Paul A., 1983: Marx, Keynes and Schumpeter, *Eastern Economic Journal* 9, pp. 166–179.

Schumpeter, Joseph A., 2008, *Capitalism, Socialism, and Democracy* (HarperPerennial, New York).

Schumpeter, Joseph, 1928, The Instability of Capitalism, *The Economic Journal* 38, pp. 361–386.

A painting by Jose Vives-Atsara of San Antonio's Main Plaza in 1868 still hangs in the lobby of the Frost Bank in downtown San Antonio. The original Frost building is shown next to San Fernando Cathedral, the oldest operating cathedral in the United States.

A Profitable Century *of* Prudence

Survival is a skill some banks have honed through many cycles

By Gregory DL Morris

(Left) The middle building is the Hopland, CA, branch of the Savings Bank of Mendocino County. The larger building to the left is a hotel that was connected to the train station behind it. The train and the station are gone, but the smaller building to the right of the bank was the coach house from when the stage was the only commercial transport and the highway in front was just a wagon trail. *(Above)* A close-up of the bank.

Mere months after the end of the Civil War in 1865, Francis Reid Long came to Kansas City with $10,000 capital and started a bank, the Kansas City Savings Association above the Magnolia Saloon.

Three years later, and in local terms just 32 years after the fall of the Alamo, Colonel T.C. Frost opened a mercantile store in downtown San Antonio with his brother, selling goods to ranchers and farmers and operating a private bank to extend credit to his customers.

Those two institutions, as well as the Savings Bank of Mendocino County, California, founded in 1903, are among a select group of banks: all more than a century old having survived many panics and crises, while continuing to serve their communities. Their prudent management enabled them to do without any assistance from the Troubled Asset Relief Program (TARP) to survive the most recent recession.

Although the history and heritage of the three banks is different, there are common themes: close relationships between lenders and borrowers, capital reserves in excess of requirements, and continuity of management. At a time when the number of small banks being closed by regulators continues to grow, and when the largest institutions are vilified as "zombie banks" it is important that at least a few banks prove that being responsible is both profitable and sustainable.

In Kansas City, the bank over the saloon prospered. By 1878, capital was $50,000 and deposits were $250,000. In 1881, W.S. Woods became president of the bank. He felt the name should reflect involvement with business. So in 1882, the bank was rechartered under the name National Bank of Commerce. By 1890 it was the largest bank west of Chicago with deposits of $36 million. In 1904, Arthur Eisenhower, brother of Dwight, started work at the bank as a messenger boy. His roommate, Harry Truman, was also employed by the bank.

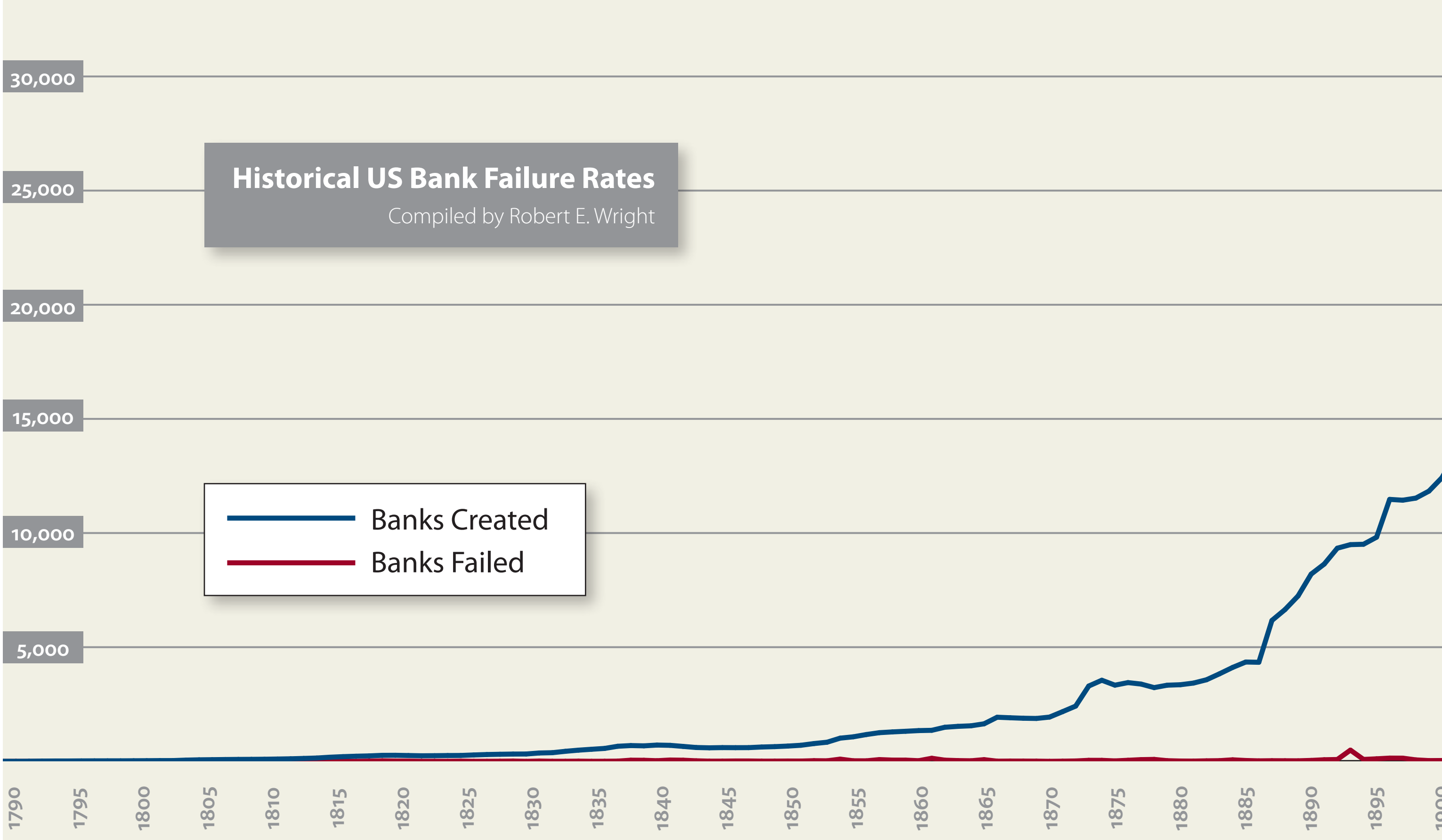
In 1921, Commerce created a Women's Department to help women gain a clearer understanding of banking. Commerce was also the first Kansas City bank to promote women to high-level banking positions, and Emma Hall, who became an authority on government bonds, was named assistant vice president in 1945. Her career with Commerce spanned 31 years.

In 1928 Commerce began the first 24-hour transit department in the country. The correspondent services allowed banks in smaller communities to turn to the bigger bank for assistance in making large business loans or providing other special services to their customers. The service grew and by the early 1930s, the bank had more correspondent customers than all but a few banks in the country.

"Kansas City was the nation's second largest rail center, and was a huge hub where the railroads from the southwest all came together," says Jonathan M. Kemper, vice chairman of Commerce Bancshares and chairman of Commerce Bank for the Kansas City Region. "Paper was coming in from all over, so we established a clearing and transit operation at the railroad station."

The Kemper family has a four-generation association with the bank, starting in 1906 when Woods appointed William T. Kemper as president of Commerce Trust. His son James M. succeeded him as bank president in 1922 at age 31. In 1955 James Kemper Jr. was elected president. He became chairman and president in 1964. In 1982, David W., son of James, Jr. and brother of Jonathan, was elected president and chief operating officer.

That continuity is one of the keys to success for the bank. "For many years we had the highest ratio of inside ownership

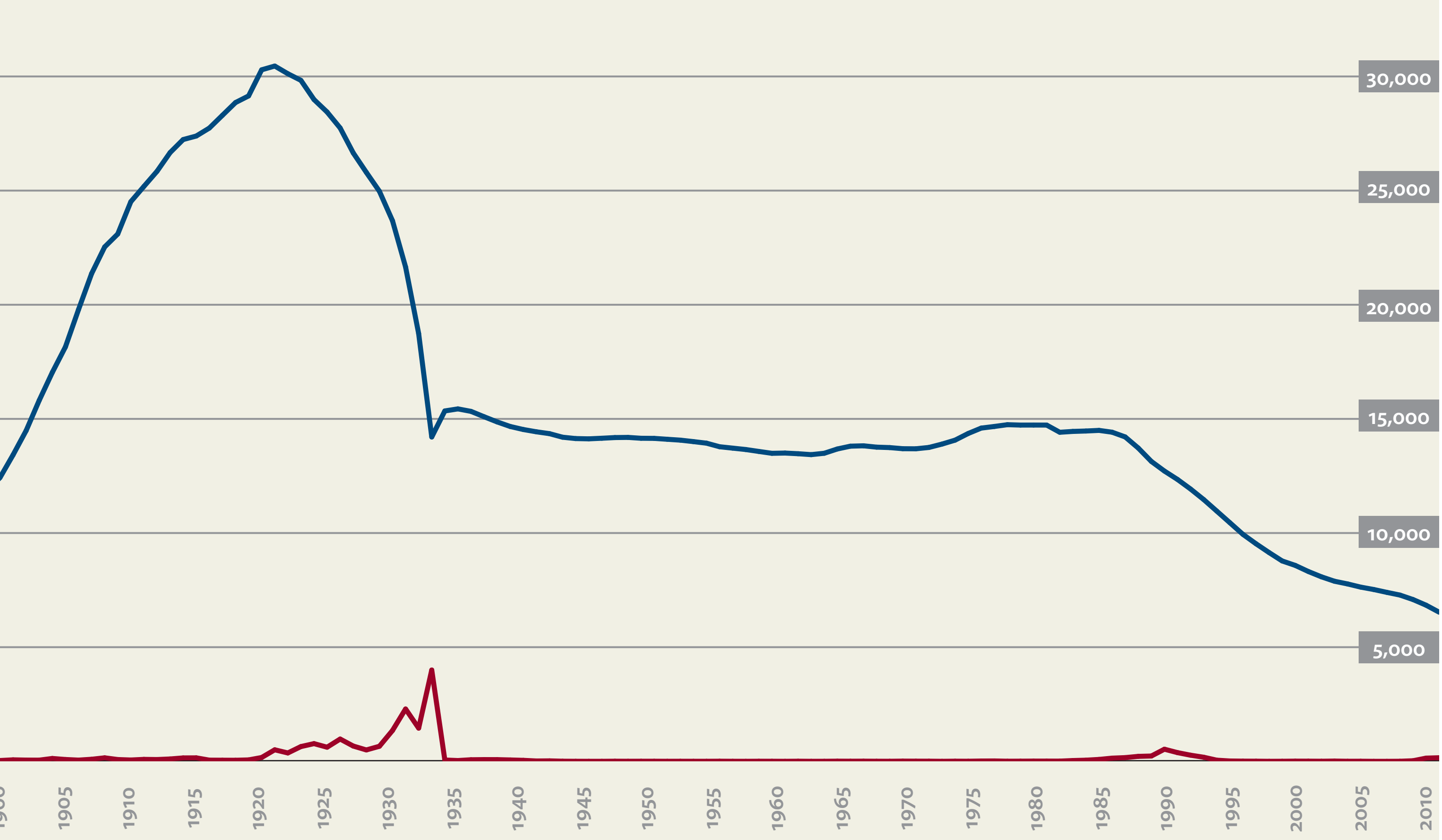


Between 1790 and 2010, an average of a little more than one out of every 100 US banks were bankrupted each year. This chart shows, however, that most years were not average. In many years, a trivial number of banks failed but in other, thankfully rare years, the nation lost on the order of 10% of its banks. Most failed banks were small, but in 2008 an unprecedented number of very large banks had to be closed or folded into other, more viable institutions.

of the largest 50 banks in the country," says Jonathan Kemper. "We are still very high on that list. Both my brother and I are heavily invested in the bank, and we identify as much with our shareholders as we do with our management."

In some cases family succession can lead to ossification, but it has done just the opposite for Commerce. "We are proud of our history at the bank, but we stress that it is a history of innovation and opportunity," says Jonathan Kemper. "Dr. Woods was an innovator, very entrepreneurial moving out from Kansas City to the hinterlands. Another big innovation came on Dad's watch. He recognized the growth of retail banking. We already served many of the granger banks through our clearing

T.C. Frost draft from 1885.



SOURCES: Historical Statistics of the US, Cj251, *Banking and Monetary Statistics, 1914–1941* (Fraser, 283). Annual Report of the Federal Deposit Insurance Corporation for the Year Ending December 31, 1934 (Washington, DC: FDIC, 1935), 92–93. Federal Deposit Insurance Corporation, Failures and Assistance Transactions, Number of Institutions, 1934–2010, FDIC Historical Statistics on Banking Federal Deposit Insurance Corporation, Number of Institutions, Branches and Total Offices. "Count of Banks by State—Daily," by Warren E. Weber, FRBMN Warren Weber, "Early State Banks in the United States: How Many Were There and When Did They Exist?" Working Paper (December 2005) Grossman, Richard. "US Banking History, Civil War to World War II." EH.Net Encyclopedia, edited by Robert Whaples. March 16, 2008. URL http://eh.net/encyclopedia/article/grossman.banking.history.us.civil.war.wwii. James A. Haxby, *Standard Catalog of Obsolete Bank Notes, 1782–1866* (Iola, WI: Krause Publications, 1988).

system. When the bank holding company laws were changed, we became one of the largest in Missouri acquiring those. When interstate banking was allowed, we became the largest bank in Kansas."

In 1967 Commerce Bancshares became a registered bank holding company with the ability to acquire Missouri banks as affiliates—the first bank in Missouri to organize on a multi-bank basis. In 1970, total consolidated assets broke the billion-dollar barrier.

Missouri is the only state with two Federal Reserve banks, and not a little rivalry between the two principal cities of the state. In 1983 Commerce bridged the divide and entered the St. Louis market in a big way through the acquisition of County Tower Corp. That made Commerce the largest institution in the state in terms of banking offices with 111; and third largest in deposits, assets and loans.

The following year Commerce introduced another connection—"Special Connections," the first card having the combined features of a credit card and an automated-teller-machine transaction card. "Consumer credit was never a separate operation as it was at other institutions," says Jonathan Kemper. "It was always tied back to the branches and integrated with all the other operations. But we resisted the temptation to send credit cards out to Florida and Las Vegas. As a result, our credit card losses are literally half the national average." The credit card business is being developed into more comprehensive corporate accounts-payable services.

The corporate mantra at Commerce is, "be accessible, offer solutions, build relationships." That resonates closely with the watchwords at Frost: "identifying problems early, staying close to customers, continuing to build business." Both sets of ideas stand in stark contrast to the well-documented troubles at the banks that had to take TARP money.

But then, maybe survival begets survival. "Of the 10 largest banks in Texas at the time, we were the only ones to survive the recessions of the 1980s," says Dick Evans, chairman and CEO of Frost. That triple threat—a bust in land and oil prices as well as the savings-and-loan fiasco—was even worse that the most recent recession, he adds.

"We have always tried to protect depositors and liquidity, and conduct prudent lending," Evans recalls, "but it was a very difficult, very humbling time. With $150 million in capital we had to charge off $400 million in loans by the time it was all over. We dug ourselves out one shovel at a time."

He stresses that growth and prosperity require "mutual respect and long-term relationships. It takes both the borrower and the lender working together to get out of the ditch." Again that guiding principle stands in stark contrast to the bank practices at other institutions that created toxic assets.

"Eleven years ago we got out of the residential mortgage business because we saw that it had become a commodity and not a relationship," says Evans. "That move was questioned at every level, but our depositors and our managers and our investors understand our business. We have never been confused as to what performance means to this bank."

First home of the Kansas City Savings Association, forerunner of Commerce Bank, over the Magnolia Saloon.

That said, Evans adds, "there are great opportunities in every economic cycle. Having learned the lessons of the '80s, we were the first public company to say 'thanks but no thanks' to TARP. Instead of taking bailout money, we got out there to prospect. We knew that there would be tremendous opportunities for deposit growth in the recession."

And so it has been for Frost from the start. The nation's bloodiest trial, the Civil War, was over less than three years when Colonel Frost opened his shop. Texas was in the grip of a drought and still two years from being readmitted to the Union, the last of the former Confederate states to do so. In contrast, Texas was well ahead in economic recovery. The land and cattle and rail booms were building; the transcontinental railroad would be completed the next year.

Frost had many careers in his lifetime: a Latin instructor, a Confederate army officer, a lawyer, a Texas Ranger, a postmaster, an auctioneer, the owner of a general store and finally, a banker. Joseph Hardin Frost, known as "Mr. Joe" and second son of Colonel Frost, steered the bank through the Depression and World War II. He was named chairman of the board in 1948.

When the Federal Reserve System was established, Frost National Bank was a founding member of the Reserve Bank of

Progressive banking at Commerce, 1920s style.

The main entrance to the home office of Savings Bank of Mendocino County, in Ukiah, CA. The columns are from the original headquarters, since replaced by a modernist structure.

Dallas in 1914. During the Great Depression, Frost experienced a heavy withdrawal of funds, but because of its sound assets and liquidity, Frost survived and became the largest bank in San Antonio.

Regional growth was succeeded by statewide growth. On 7/7/77, Frost merged with Houston-based Cullen Bankers to form Cullen/Frost Bankers, Inc., creating the eighth largest holding company in the state at the time. The company began trading on the NASDAQ. Acquisition was one of the few avenues open to growth because branch banking was not passed by the Texas legislature until 1986. Evans, chairman of Cullen/Frost Bankers, was named chief executive officer in 1997, the first non-Frost family member to hold that position. That same year the institution shifted its listing to the NYSE.

At only 108 years old, the Savings Bank of Mendocino County (SBMC), based in Ukiah, is younger than the other two, and is also different in that it is privately held. But many of the guiding principles that have sustained the other two larger institutions also carry on in the hills and canyons of north-central California.

Charles Mannon, chairman of the board, is a second-generation Ukiahn who went away to law school but came back to practice; he had worked summers in the bank, but did not intend it to be his career. Yet, he has been with the institution for 35 years.

The region, about 50 miles inland from the ocean, has always been agricultural. Today that is most notably wine, but Mannon remembers picking hops in his youth. The hop flower crop gave way to orchard fruits over time and eventually to viticulture. Lumber was also a major business, and some of that remains today.

Mendocino County is far enough from San Francisco that it has not been battered by the worst of the real estate volatility, but the bank has always taken a prudent approach to deposits and lending.

"We always make sure we have more than enough capital," says Mannon. "As one of our former chairmen liked to say, 'lack of profitability is painful, but lack of liquidity is terminal.'"

Which is not to say that the bank was unscathed by the recent recession. "Our CFO had people come in and try to sell us derivatives and such. But we don't buy anything we don't understand. I was always skeptical of housing from the start. We never looked at homes as investments."

Floyd Ross, executive vice president, notes that the bank continues to make residential loans, and even sells some into the secondary market, but SBMC retains the loan service to keep the connection to the community. Ross has been with the bank for 62 years.

In the mid to late '40s William Chessall, the principal of the local high school, was also chairman » *continued on page 72*

MORE MONEY THAN GOD

Alan Barnett

BY SEBASTIAN MALLABY

The first hedge-fund manager, Alfred Winslow Jones[1], did not go to business school. He did not possess a Ph.D. in quantitative finance. He did not spend his formative years at Morgan Stanley, Goldman Sachs or any other incubator for masters of the universe. Instead, he took a job on a tramp steamer, studied at the Marxist Workers School in Berlin and ran secret missions for a clandestine anti-Nazi group called the Leninist Organization. He married, divorced, and married again, honeymooning on the front lines of the civil war in Spain, traveling and drinking with Dorothy Parker and Ernest Hemingway. It was only at the advanced age of 48 that Jones raked together $100,000 to set up a "hedged fund," generating extraordinary profits through the 1950s and 1960s. Almost by accident, Jones improvised an investment structure that has endured to this day.

Half a century after Jones created his hedge fund, Clifford Asness followed in his footsteps. Asness did attend a business school and did acquire a Ph.D. in quantitative finance. He did work for Goldman Sachs, and he was a master of the universe. Whereas Jones had launched his venture in his mature, starched-collar years, Asness rushed into the business at the grand old age of 31, beating all records for a new start-up by raising an eye-popping $1 billion. Whereas Jones had been discreet about his methods and the riches that they brought, Asness was refreshingly open, tearing up his schedule to do TV interviews and confessing to *The New York Times* that "it doesn't suck" to be worth millions.

Asness freely recognized his debt to Jones's improvisation. His hedge funds, like just about all hedge funds, embraced four features that Jones had combined to spectacular effect. To begin with, there was a performance fee: Jones kept one-fifth of the fund's investment profits for himself and his team, a formula that sharpened the incentives of his lieutenants. Next, Jones made a conscious effort to avoid regulatory red tape, preserving the flexibility to shape-shift from one investment method to the next as market opportunities mutated.

But most important, from Asness's perspective, were two ideas that had framed Jones's investment portfolio. Jones had balanced purchases of promising shares with "short selling" of unpromising ones, meaning that he borrowed and sold them, betting that they would fall in value. By being "long" some stocks and "short" others, he insulated his fund at least partially from general market swings; and having hedged out market risk in this fashion, he felt safe in magnifying, or "leveraging," his bets with borrowed money. This combination of hedging and leverage had a magical effect on Jones's portfolio of stocks. But its true genius was the one that Asness emphasized later: The same combination could be applied to bonds, futures, swaps and options — and indeed to any mixture of these instruments.

For much of their history, hedge funds have skirmished with the academic view of markets. From the mid 1960s to the mid 1980s, the prevailing view was that the market is efficient, prices follow a random walk and hedge funds succeed mainly by being lucky.

There is a powerful logic to this account. If it were possible to know that the price of a particular bond or equity is likely to move up, smart investors would have pounced and it would have moved up already. Pouncing investors ensure that all relevant information is already in prices, so the next move of a stock will be determined by something unexpected. It follows that professional money managers who try to foresee price moves will generally fail in their mission. Therefore, plenty of hedge funds have no real "edge." But for the successful funds that dominate the industry, the efficient-market indictment is wrong. These hedge funds could drop their *h* and be called edge funds.

Where does this edge come from? Sometimes it consists simply of picking the best stocks. Despite everything that the finance literature asserts, A.W. Jones and many early hedge fund practitioners clearly did add value in this way. But frequently the edge consists of exploiting kinks in the efficient-market theory that its proponents conceded at the start, even though they failed to emphasize them. The theorists stipulated, for example, that prices would be efficient only if liquidity was perfect — a seller who offers a stock at the efficient price should always be able to find a buyer, since otherwise he will be forced to offer a discount, rendering the price lower than the efficient level. But in the 1970s and 1980s, a big pension fund that wanted to dump a large block of shares could not actually find a buyer unless it offered a discount. Michael Steinhardt made his fortune by milking these discounts in a systematic way.

Starting in the 1980s, financial academics came around to the view that markets were not so efficient after all. Sometimes their conversions were deliciously perfect. A young economist named Scott Irwin procured an especially detailed price series for commodity markets from a small firm in Indianapolis, and after painstaking analysis he proclaimed that prices moved in trends — the changes were not random. Little did he know that, almost 20 years earlier, a pioneering hedge fund called Commodities Corporation had analyzed the same data, reached the same

conclusion, and programmed a computer to trade on it.

Meanwhile, other researchers acknowledged that markets were not perfectly liquid, as Steinhardt had discovered long before, and that investors were not perfectly rational, a truism to hedge-fund traders. The Crash of 1987 underlined these doubts: When the market's valuation of corporate America changed by a fifth in a single trading day, it was hard to believe that the valuation deserved much deference. "If the efficient markets hypothesis was a publicly-traded security, its price would be enormously volatile," the Harvard economists Andrei Shleifer and Lawrence Summers wrote mockingly in 1990. "But the stock in the efficient markets hypothesis—at least as it has traditionally been formulated—crashed along with the rest of the market on October 19, 1987."

The acknowledgment of the limits to market efficiency had a profound effect on hedge funds. Before, the prevailing line from the academy had been that hedge funds would fail. After, lines of academics were queuing up to join them. If markets were inefficient, there was money to be made, and the finance professors saw no reason why they should not be the ones to profit. Asness was fairly typical of the new wave. At the University of Chicago's Graduate School of Business, his thesis adviser was Eugene Fama, one of the fathers of the efficient-market hypothesis. But by 1988, when Asness arrived in Chicago, Fama was leading the revisionist charge: Along with a younger colleague, Kenneth French, Fama discovered nonrandom patterns in markets that could be lucrative for traders. After contributing to this literature, Asness headed off to Wall Street and soon opened his hedge fund.

In similar fashion, the Nobel laureates Myron Scholes and Robert Merton, whose formula for pricing options grew out of the efficient-markets school, signed up with the hedge fund Long-Term Capital Management. Andrei Shleifer, the Harvard economist who had compared the efficient-market theory to a crashing stock, helped to create an investment company called LSV with two fellow finance professors.

Yet the biggest effect of the new inefficient-market consensus was not that academics flocked to hedge funds. It was that institutional investors acquired a license to entrust vast amounts of capital to them. Again, the years after the 1987 crash were an inflection point. Before, most money in hedge funds had come from rich individuals, who presumably had not heard academia's message that it was impossible to beat the market. After, most money in hedge funds came from endowments, which had been told by their learned consultants that the market could be beaten—and which wanted in on the action.

> If markets were inefficient, there was money to be made, and the finance professors saw no reason why they should not be the ones to profit.

The new wave was led by David Swensen, the boss of the Yale endowment, who focused on two things. If there were systematic patterns in markets of the sort that Fama, French and Asness had identified, then hedge funds could milk these in a systematic way: There were strategies that could be expected to do well, and they could be identified prospectively. Further, the profits from these strategies would be more than just good on their own terms. They would reduce an endowment's overall risk through the magic of diversification. Following Swensen's example, endowments poured money into hedge funds from the 1990s on, seeking the uncorrelated returns that endowment gurus called "alpha."

The new inefficient-market view also imbued hedge funds with a social function. This was the last thing they had sought: They had gotten into the alpha game with one purpose above all, and that was to make money. But if alpha existed because markets were inefficient, it followed that savings were being allocated in an irrational manner. The research of Fama and French, for example, showed that unglamorous "value" stocks were underpriced relative to overhyped "growth" stocks. This meant that capital was being provided too expensively to solid, workhorse firms and too cheaply to their flashier rivals: Opportunities for growth were being squandered.

Similarly, the discounts in block trading showed that prices could be capricious in small ways, raising risks to investors, who in turn raised the premium that they charged to users of their capital. It was the function of hedge funds to correct inefficiencies like these. The more markets could be rendered efficient, the more capital would flow to its most productive uses. The less prices got out of line, the less risk there would presumably be of financial bubbles—and so of sharp, destabilizing corrections.

But hedge funds also raised an unsettling question. If markets were prone to wild bubbles and crashes, might not the wildest players render the turbulence still crazier? In 1994, the Federal Reserve announced a tiny one-quarter-of-a-percentage-point rise in short-term interest rates, and the bond market went into a mad spin; leveraged hedge funds had been wrong-footed by the move, and they began dumping positions furiously. Foreshadowing future financial panics, the turmoil spread from the US to Japan, Europe and the emerging world; several hedge funds sank, and for a few hours it even looked as though the storied firm of Bankers Trust might be dragged down with them. As if this were not warning enough, the world was treated to another hedge-fund failure four years later, when Long-Term Capital Management and its crew of Nobel laureates went bust; terrified that a chaotic bankruptcy would topple Lehman Brothers and other dominoes besides, panicked regulators rushed in to oversee LTCM's burial.

And so, by the start of the 21st century, there were two competing views of hedge funds. Sometimes the funds were celebrated as the stabilizing heroes who muscled inefficient prices into line. Sometimes they were vilified as the weak links whose own instability or wanton aggression threatened the global economy. The heart of the matter was the leverage embraced by A.W. Jones — or rather, a vastly expanded version of it. Leverage gave hedge funds the ammunition to trade in greater volume, and so to render prices more efficient and stable. But leverage also made hedge funds vulnerable to shocks: If their trades moved against them, they could burn through thin cushions of capital at lightning speed, obliging them to dump positions fast — *destabilizing* prices.

Then came the crisis of 2007–2009. Whereas the market disruptions of the 1990s could be viewed as a tolerable price to pay for the benefits of sophisticated and leveraged finance, the convulsion of 2007–2009 triggered the sharpest recession since the 1930s. Inevitably, hedge funds were caught up in the panic. In July 2007, a credit hedge fund called Sowood blew up, and the following month a dozen or so quantitative hedge funds tried to cut their positions all at once, triggering wild swings in the equity market and billions of dollars of losses. The following year was more brutal by far. The collapse of Lehman Brothers left some hedge funds with money trapped inside the bankrupt shell, and the turmoil that followed inflicted losses on most others.

Hedge funds needed access to leverage, but nobody lent to anyone in the weeks after the Lehman shock. Hedge funds built their strategies on short selling, but governments imposed clumsy restrictions on shorting amid the post-Lehman panic. Hedge funds were reliant upon the patience of their investors, who could yank their money out on short notice. But patience ended abruptly when markets went into a tailspin. Investors demanded their capital back, and some funds withheld it by imposing "gates." Surely now it was obvious that the risks posed by hedge funds outweighed the benefits?

This conclusion, though tempting, is almost certainly mistaken. The cataclysm has indeed shown that the financial system is broken, but it has not actually shown that hedge funds are the problem. It has demonstrated that central banks may have to steer economies in a new way: Rather than targeting consumer-price inflation and turning a blind eye to asset-price inflation, they must try to let the air out of bubbles. If the Fed had curbed leverage and raised interest rates in the mid 2000s, there would have been less craziness up and down the chain. American households would not have increased their borrowing from 66% of GDP in 1997 to 100% a decade later. Housing finance companies would not have sold so many mortgages regardless of borrowers' ability to repay. Banks like Citigroup and broker-dealers like Merrill Lynch would not have gorged so greedily on mortgage-backed securities that ultimately went bad, squandering their capital. The Fed allowed this binge of borrowing because it was focused resolutely on consumer-price inflation, and because it believed it could ignore bubbles safely. The carnage of 2007–2009 demonstrated how wrong that was. Presented with an opportunity to borrow at near zero cost, people borrowed unsustainably.

The crisis has also shown that financial firms are riddled with dysfunctional incentives. The clearest problem is "too big to fail" — Wall Street behemoths load up on risk because they expect taxpayers to bail them out, and other market players are happy to abet this recklessness because they also believe in the government backstop. By contrast, hedge funds made it through the mayhem without receiving any direct taxpayer assistance: There is no precedent that says that the government stands behind them.

The other skewed incentive in finance involves traders' pay packages. When traders take enormous risks, they earn fortunes if the bets pay off. But if the bets go wrong, they don't endure symmetrical punishment — the performance fees and bonuses dry up, but they do not go negative. Again, this problem is sharper at banks than at hedge funds. Hedge funds tend to have "high-water marks": If they lose money one year, they take reduced or even no performance fees until they earn back their losses. Hedge-fund bosses mostly have their own money in their funds, so they are speculating with capital that is at least partly their own — a powerful incentive to avoid losses. By contrast, bank traders generally face fewer such restraints; they are simply risking other people's money. Perhaps it is no surprise that the typical hedge fund is far more cautious in its use of leverage than the typical bank.

The very structure of hedge funds promotes a paranoid discipline. Banks collect savings with the help of government deposit insurance; hedge funds have to demonstrate that they can manage risk before they can raise money from clients. Banks know that if they face a liquidity crisis they have access to the central bank's emergency lending, so they are willing to rely heavily on short-term loans; hedge funds have no such safety net, so they are increasingly reluctant to depend on short-term lending. Banks take the view that everything is going wonderfully so long as borrowers repay; hedge funds mark their portfolios to market, meaning that slight blips in the risk that borrowers will hit trouble in the future can affect the hedge funds' bottom line immediately.

For all these reasons, a proper definition of hedge funds should stress their independence. So-called hedge funds that are the subsidiaries of large banks lack the paranoia and focus that give true hedge funds their special character. $

This article was adapted from Sebastian Mallaby's More Money Than God *(copyright 2010 by Sebastian Mallaby). Reprinted by arrangement with The Penguin Press, a member of Penguin Group (USA) Inc.*

Note

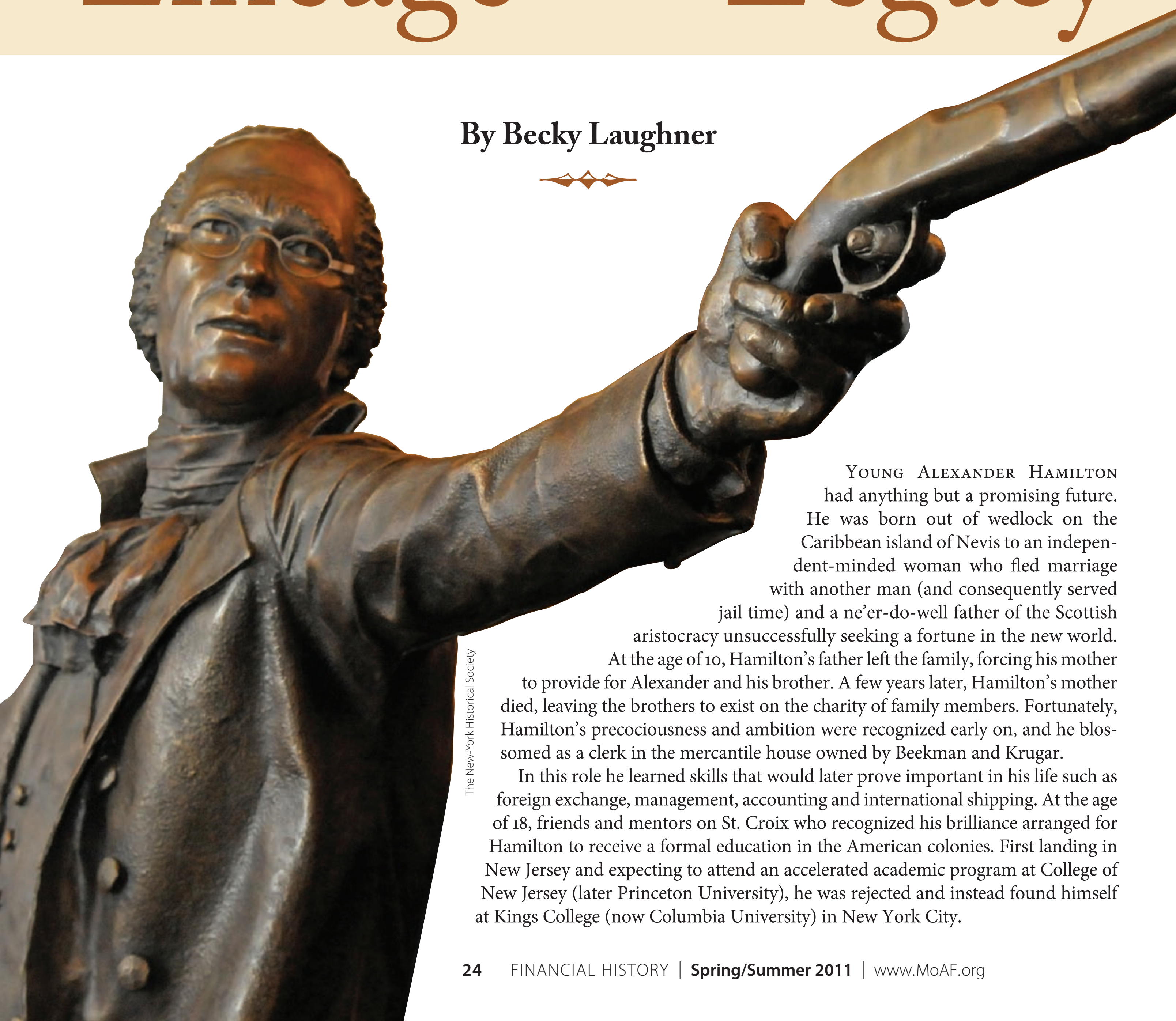
1. While Alfred Winslow Jones is most often credited with creating the first hedge fund, some people, including Warren Buffett, cite Benjamin Graham as being among the first hedge fund practitioners. Though it was not called a hedge fund, Graham's 1920s fund involved a partnership structure, a percentage-of-profits-compensation arrangement for Graham as general partner, a number of limited partners and a variety of long and short positions.

SANFORD J. MOCK
TRIBUTE ARTICLE

This series of articles on 18th century American finance is dedicated to the memory of Sanford "Sandy" Mock. A long-time collector of historical financial documents, Sandy contributed several articles to *Financial History* magazine and donated a large portion of his 18th century collection to the Museum's archives. Sandy's spirit of the adventure of collecting, his eager cooperation with many others in their research, and his generosity on behalf of those who love the history of finance will always be with us.

Alexander Hamilton
Lineage and Legacy

By Becky Laughner



The New-York Historical Society

Young Alexander Hamilton had anything but a promising future. He was born out of wedlock on the Caribbean island of Nevis to an independent-minded woman who fled marriage with another man (and consequently served jail time) and a ne'er-do-well father of the Scottish aristocracy unsuccessfully seeking a fortune in the new world. At the age of 10, Hamilton's father left the family, forcing his mother to provide for Alexander and his brother. A few years later, Hamilton's mother died, leaving the brothers to exist on the charity of family members. Fortunately, Hamilton's precociousness and ambition were recognized early on, and he blossomed as a clerk in the mercantile house owned by Beekman and Krugar.

In this role he learned skills that would later prove important in his life such as foreign exchange, management, accounting and international shipping. At the age of 18, friends and mentors on St. Croix who recognized his brilliance arranged for Hamilton to receive a formal education in the American colonies. First landing in New Jersey and expecting to attend an accelerated academic program at College of New Jersey (later Princeton University), he was rejected and instead found himself at Kings College (now Columbia University) in New York City.

Hamilton spent his politically formative years at Kings College. In 1774 he began writing anonymous political pamphlets espousing the Patriot's causes. Despite his schoolwork and classes, Hamilton found time to write political tracts such as "A Full Vindication of the Measures of Congress" and "The Farmer Refuted." Because these anonymous pieces were so well written and informed, some political opponents guessed that the voice behind them was the respected statesman John Jay.

Hamilton was a bit of a firebrand and quickly embedded himself in the revolutionary fervor of his newly-adopted country. Although he is best recognized for his financial achievements, it was his military service during the Revolutionary War that launched his career. Early in life Hamilton recognized that the military was a path to success and glory. At age 14 he wrote in a letter to his boyhood best friend, "I wish there was a war," as an expression of his ambition to achieve greater things and as a means to escape his low social status by distinguishing himself in the military.

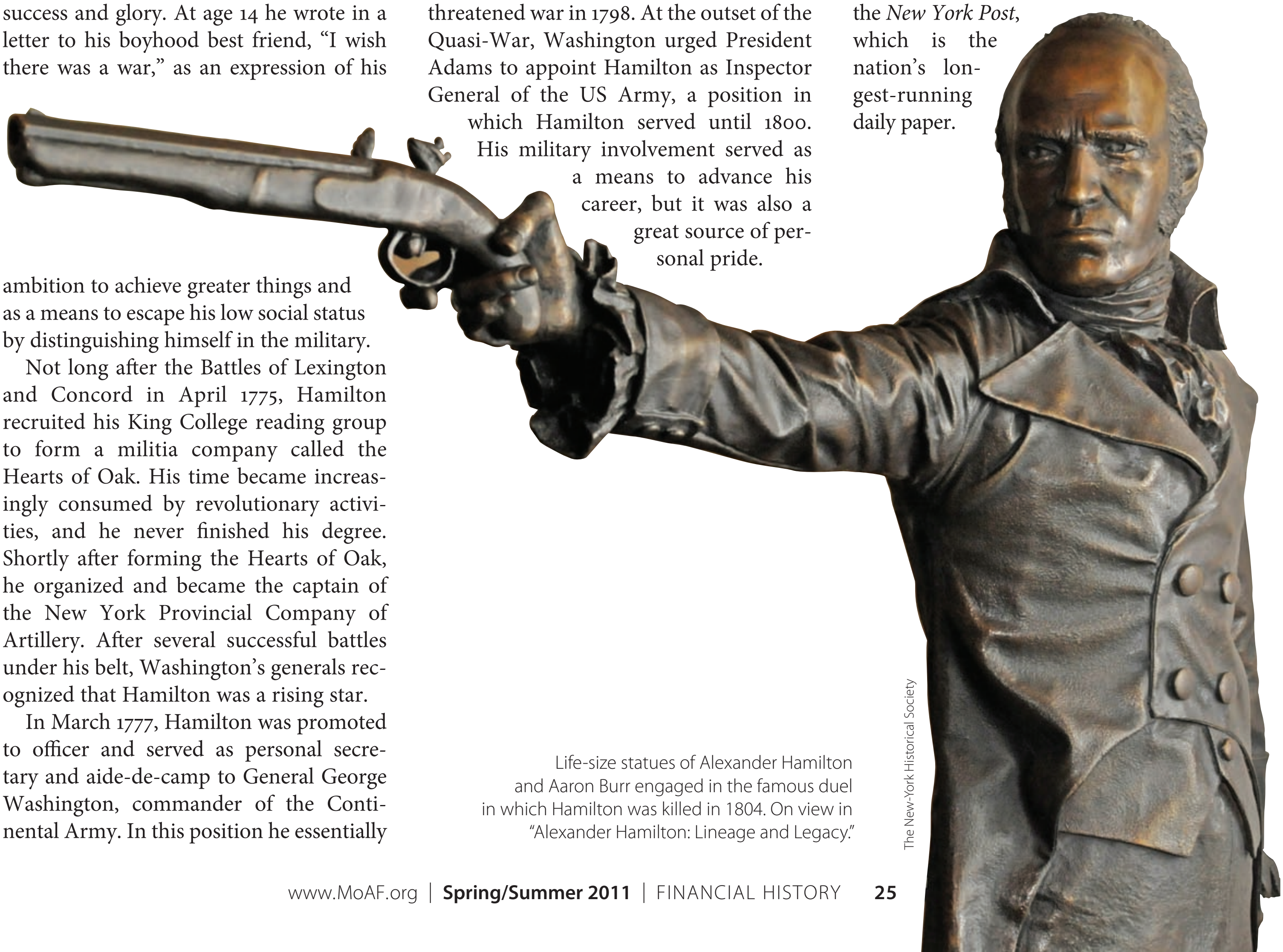
Not long after the Battles of Lexington and Concord in April 1775, Hamilton recruited his King College reading group to form a militia company called the Hearts of Oak. His time became increasingly consumed by revolutionary activities, and he never finished his degree. Shortly after forming the Hearts of Oak, he organized and became the captain of the New York Provincial Company of Artillery. After several successful battles under his belt, Washington's generals recognized that Hamilton was a rising star.

In March 1777, Hamilton was promoted to officer and served as personal secretary and aide-de-camp to General George Washington, commander of the Continental Army. In this position he essentially served as Washington's chief of staff, but Hamilton began to chaff under the administrative position, and after four years he returned to active combat. He transitioned to a commander of an infantry regiment and played a key role in the pivotal battle at Yorktown that marked America's victory in the Revolutionary War.

After Washington was elected as the first US President in 1789, he appointed Hamilton to be the first Secretary of the Treasury. Because import tariffs and tonnage duties were two of the few sources of revenue for the fledgling nation, it was Hamilton's responsibility to defend the coasts and surrounding waters from smugglers and pirates, and to make them safe for legitimate trade. He was instrumental in the passage of the Tariff Act of 1790 that created the US Revenue Cutter Service (later known as the US Coast Guard) and the passage of the Naval Act of 1794, which was responsible for the creation of the Navy.

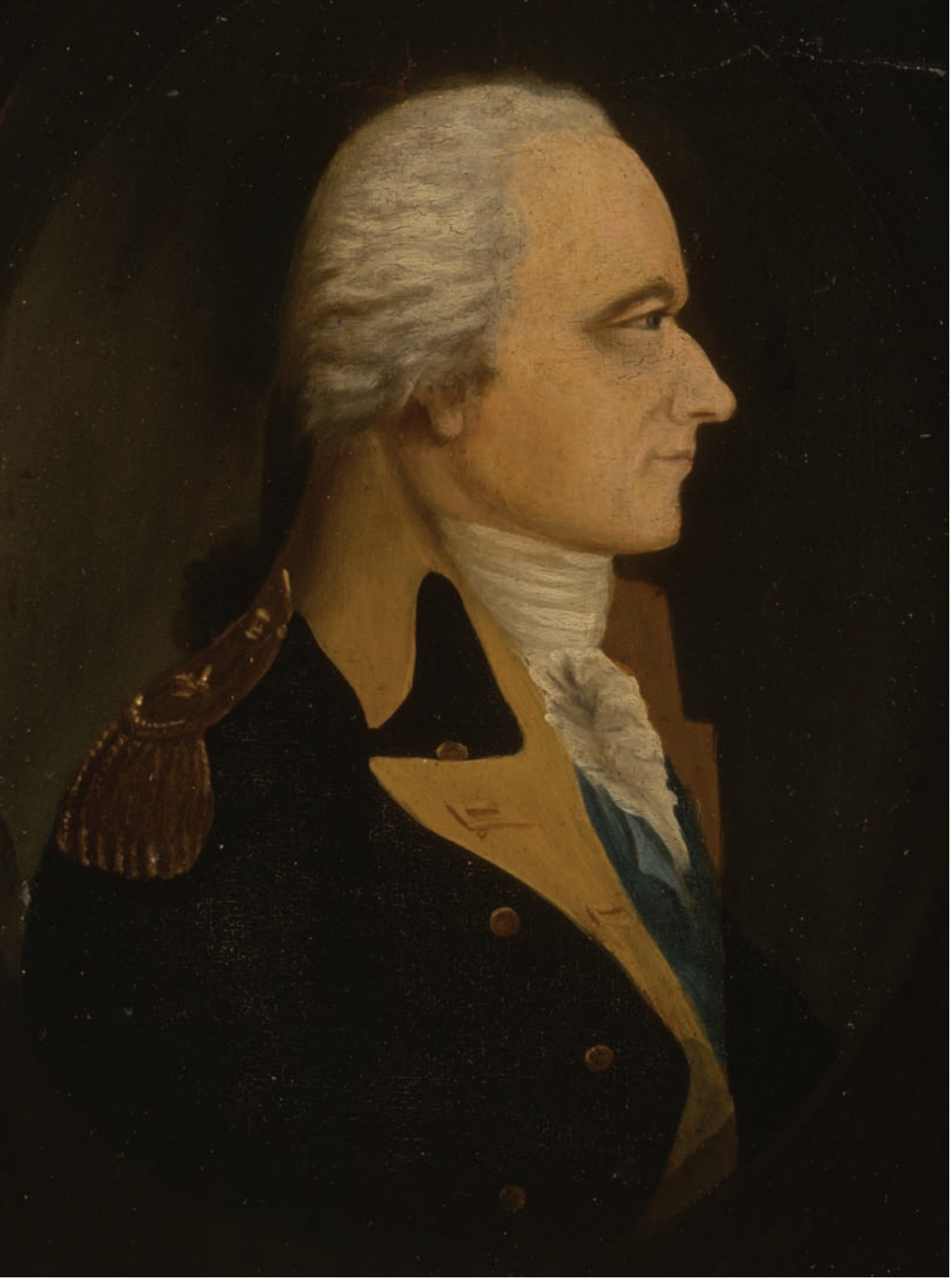
Hamilton remained an arms distance away from the military until France threatened war in 1798. At the outset of the Quasi-War, Washington urged President Adams to appoint Hamilton as Inspector General of the US Army, a position in which Hamilton served until 1800. His military involvement served as a means to advance his career, but it was also a great source of personal pride.

Hamilton distinguished himself in countless other arenas in addition to his military career, and was in many ways a Renaissance Man of his time. He was a prolific and gifted writer and penned everything from poetry in his youth to seminal political tracts, such as the majority of the articles in the Federalist Papers. It is evident that Hamilton was a voracious learner, and despite the fact that he never graduated from Kings College, he was later awarded an honorary degree from the school as well as from Harvard, Dartmouth, Princeton and Brown. As an immigrant who made his own way in the world and valued learning, he advocated universal education. He was influential in founding the African Free School in Manhattan for freed slaves and the children of slaves as part of his role in the New York Manumission Society, as well as the Hamilton-Oneida Academy, a school in upstate New York founded to teach both Native American and settling white students. Hamilton is also a founder of the *New-York Evening Post*, known today as the *New York Post*, which is the nation's longest-running daily paper.



Life-size statues of Alexander Hamilton and Aaron Burr engaged in the famous duel in which Hamilton was killed in 1804. On view in "Alexander Hamilton: Lineage and Legacy."

The New-York Historical Society



Courtesy of Douglas Hamilton

The New-York Historical Society

(Left) Portrait of Alexander Hamilton wearing his general's uniform. *(Right)* Hamilton's Society of the Cincinnati badge.

In addition to these hobbies and personal passions, Hamilton was a prominent New York City lawyer and was recognized for his accomplishments in law, political theory and political commentary. While studying for the bar, he compiled a manual entitled "Practical Proceedings in the Supreme Court of the State of New York" that was hand copied by law students and became the *de facto* legal text book for the following decade.

He practiced law as a private citizen to pay his bills, while remaining close to politics. During his short but influential political career he was elected and served as New York delegate to the Continental Congress, the Annapolis Convention and the Constitutional Convention. He also served as delegate from New York County to the New York State Legislature, where he convinced his fellow New Yorkers to ratify the Constitution. Shortly after the ratification, Hamilton was appointed as the nation's first Secretary of the Treasury, and in his first three years in this role he published reports that set the foundations of the nation's financial system including "First Report on the Public Credit," "Report on a National Bank," "Report on the Establishment of a Mint" and "Report on Manufactures."

Although Hamilton is most recognized for his financial contributions, he is perhaps most notoriously known for his duel with his political rival, Aaron Burr, and his extramarital affair with Maria Reynolds. In 1791, around the same time Hamilton was publishing reports as Secretary of Treasury, he began an affair with the married Maria Reynolds and quickly became entangled in a blackmail scheme involving her husband. To keep his affair from being exposed, Hamilton paid the couple sums of money under the guise of a personal loan. His political enemies discovered this and accused him of using public funds to conceal his

Elsa Ruiz

The New-York Historical Society (photo by Alan Barnett)

(Above) Entrance to the Museum's "Alexander Hamilton: Lineage and Legacy" exhibit.
(Left) Mourning ring containing a braided lock of Hamilton's hair.

impropriety. Fearing that his career would be irreparably tarnished, in 1797 he published another report, this time a 95-page confession pamphlet about the affair. Hamilton quickly realized that his decision was a mistake and attempted to retract the pamphlets. However, Burr and Hamilton's other rivals reprinted the confession and distributed it for free. Despite the humiliation the fiasco caused Hamilton's family, his career survived the first major public sex scandal in American history.

Although Hamilton and Burr were long-time acquaintances (they studied law together and were both officers in Washington's army), their political differences exacerbated frictions that existed between them. Tensions between the two men escalated after the difficult and muddy Presidential election of 1800. Burr and Thomas Jefferson tied in the election, but ultimately Burr lost, in part because Hamilton advised his political party, the Federalists, to back Jefferson. This, in conjunction with other political disputes, led Burr to challenge Hamilton to a duel in 1804, which Hamilton accepted.

Near the water in Weehawken, New Jersey, a location remote enough that they could duel without being detected, the men dueled with Hamilton's brother-in-law's Wogdon pistols. The exact events of the duel are not known, and there are many different accounts of what happened that day, but Hamilton was shot in the side and, after being transported back to Manhattan, died the next day on July 12, 1804 at the age of 49.

Shortly after his death, former Congressman Fisher Ames of Massachusetts wrote that the United States "mournful as it is, does not know the half of its loss. It deeply laments, when it turns its eyes back, and sees what Hamilton was; but my soul stiffens with despair when I think what Hamilton would have been."

Burr went on to live 32 years after Hamilton, and Jefferson another 22 years. But today we continue to live in the economic, political and social world that Alexander Hamilton created. In life he strived to achieve three principle goals: US independence, a strong national government authorized by the Constitution and a strong financial foundation for the young nation. He accomplished these goals, and for that he is deemed to be one of the greatest statesmen and financial minds in modern history. $

Becky Laughner is the Museum's Director of Exhibits and Archives. This article was excerpted from the exhibit, "Alexander Hamilton: Lineage and Legacy," which Laughner curated with Dr. Richard Sylla.

Illustration of Captain John Smith landing in the new world, by E. Boyd Smith.

The Jamestown Experiment

By Tony Williams

The American Dream was built along the banks of the James River in Virginia. The settlers who established America's first permanent English colony at Jamestown in 1607 were gentlemen adventurers and common tradesmen who bravely voyaged to North America despite its many dangers. They sought personal profit and the greater national glory of mother England. Their venture was part of a grand national struggle with Spain to satisfy their aspiring imperial ambitions.

Yet the hardy adventurers who settled at Jamestown were largely on their own with their venture. The Crown granted them a royal charter for a joint-stock company in which they shared the risk among several investors. But the Crown did not offer any direct financial support. Rather, these free and independent Englishmen were enterprising individuals who risked their lives and fortunes on the venture and stood to reap the rewards of their private initiative — should there be any to be won.

Whatever the grand visions of profit and glory, the history of the first several years of the colony was simply a struggle to survive and endure. The settlers died in droves, and the colony constantly hovered on the edge of collapse. The old military model of colonization established during the Elizabethan era persisted and threatened to doom Jamestown. The authoritarian model of absolute leadership and the communitarian methods of living were fundamentally at odds with the character of these free individuals. The colonists bristled at draconian systems of law and harsh rulers, while ambitious gentlemen jockeyed and conspired to seize the reins of government. A common storehouse destroyed individual initiative and

A depiction of Jamestown after settlement.

dampened the work ethic. The result was that the colonists perished in great numbers and disappointed investors in England lost their money.

Even when they utilized modern methods of promoting their colony, they successfully whipped up enthusiasm for settling in Virginia among a credulous English public but achieved little tangible success. After fits and starts for the better part of a decade, innovations were finally introduced that slowly turned things around and put the colony on the path to success. The answers were novel and surprising and yet very much in harmony with the longings of these free men and women.

The solutions to the troubles at Jamestown were rooted in the entrepreneurial spirit that would shape and define the American character. Private property, individual initiative, the profit motive and the freedom to pursue one's happiness — these are the traits that helped the colony survive and built a nation.

In 1604, London and other cities were abuzz with several different schemes for overseas voyages. Merchants, adventurers, politicians and members of the court were discussing the potential risks and rewards of the different ideas that were proposed. They were generally guided by a desire for profits, but they were also fierce patriots who wished to support England's imperial ambitions, particularly against Catholic Spain, even if they were officially at peace.

One such promoter was Bartholomew Gosnold, who was actively lobbying merchants and politicians to support a venture to North America. John Smith, another gentleman-adventurer who was interested in the idea of a Virginia colony,

called Gosnold "one of the first movers of the colony." For many years, Gosnold had "solicited many of his friends" but mustered little interest. He persisted nevertheless and slowly won over several individuals who had money to invest in the venture.

Another critical supporter of the Virginia colony was the extraordinary merchant Sir Thomas Smythe, who had participated in a number of groundbreaking overseas ventures, including the incorporation of the Turkey Company in 1584, the development and activities of the Muscovy Company in 1587, and an expedition to the East Indies in 1591 to explore the opportunities to participate in the lucrative spice trade. He was the first governor of the English East India Company. Smythe also held a number of government positions that helped him build up his connections for global voyages and trade.

In April 1606, the efforts bore fruit when the crown granted a patent establishing two companies to colonize the territory called Virginia, "which are not now actually possessed by any Christian prince or people." The patent included protecting the rights of Englishmen "as if they had been abiding and born within this our realm of England." Most importantly, the Virginia Company was granted rights to all the "lands, woods, soil, grounds, havens, ports, rivers, mines, minerals, marshes, water, fishing [and] commodities," thus laying the economic grounds of the colony. No other subjects would be granted competing patents that would violate this monopoly. Yet, at this point, no one questioned the communal and centralized character of the colony for those more consistent with free, enterprising Englishmen.

On December 20, 1606, 144 sailors and adventurers set sail for Virginia as their three ships quietly slipped their moorings. They rode the ebb tide, sailing down the Thames and catching a last sight of the English countryside. On May 14, 1607, they landed with great hopes of striking it rich and establishing the first permanent English settlement in America.

Over the next two months, the gentlemen-adventurers explored up the James River, seeking any sign or news of mineral wealth or the Northwest Passage to the Orient. They wondered if the James itself was the actual river that connected the Atlantic and Pacific Oceans, England with the wealth of the East. They sent home a "taste of clapboard" that the investors would have some idea of the bounty of trees in Virginia. Most tantalizingly, the council in Virginia warned that Spaniards must be prevented from laying their "ravenous hands upon these gold-showing mountains." Indeed, the Jamestown council sent a barrel of earth back to England because of the belief it contained gold.

After a chaotic summer during which the president was deposed and disease and Indian attacks severely reduced the colony, Councilman John Smith complained that the settlers "would rather starve and rot with idleness." The colony was still very low on food supplies especially since the Indians had stopped bringing provisions. Smith and the other leaders could force the colonists to work under threat of punishment, but they could not offer any better incentive to work hard. Individual workers did not take initiative because they were not rewarded for it and ate out of the common storehouse. Under the circumstances, the men did enough labor to avoid punishment and continued to consume the common stocks of food.

> MOST TANTALIZINGLY, THE COUNCIL IN VIRGINIA WARNED THAT SPANIARDS MUST BE PREVENTED FROM LAYING THEIR "RAVENOUS HANDS UPON THESE GOLD-SHOWING MOUNTAINS."

The first seven months of the colony were an abject failure. Diseases had ravaged the settlement. The land was not nearly as bountiful as described in promotional letters back in England. The native peoples recognized the difficulties of the colony and used it to their advantage and interests. Ambitions and intrigues drove the Englishmen apart and tore the fabric of leadership. The reality of the colony hardly matched the grand expectations of the investors little more than a year before. Their salvation seemed imminent when Christopher Newport's supply ship put in at Jamestown during the frightful cold of winter. The lives of the colonists hung in the balance.

By the autumn of 1608, the Jamestown colonists had suffered another deadly round of summer diseases and another president, John Ratcliffe, was imprisoned. Most of that year's crop was spoiled in the common storehouse. There would be food shortages again that winter unless Newport returned with another relief expedition. John Smith was prepared to take the reins of government and provide strong leadership that would permanently establish the law and order he thought necessary for the colony to thrive. He had a sense of destiny (and hubris) that Jamestown would rise or fall depending upon his leadership and did not consider the possibility that it might succeed because of the energies of the individual colonists.

When Smith met with the Powhatan chief, Wahunsonacock, the Indian deflated the last shred of hope that Smith maintained that the Pacific was nearby and that a Northwest Passage might be discovered. "As for any salt water beyond the mountains, the relations you have had from my people are false." Moreover, none of the expeditions around Virginia had yet turned up any signs of gold.

Smith instituted martial discipline and forced the colonists into a work regimen of at least six hours a day. They were divided into small teams for a variety of tasks. Smith declared, "He that will not work shall not eat," but he failed to give them any real incentive to work except to escape "his due punishment for idleness." He was doing what was fair and just — after all, it was inequitable for "the labors of thirty or forty honest and industrious men … to maintain a hundred and fifty idle loiterers." But none of those 200 colonists would reap any individual rewards for their hard work.

By 1609, the Jamestown colony was still a failure by any measure. The death rate from hunger and disease was atrocious. Costly relief expeditions had been sent, but these stores were rapidly consumed and left the colonists as hungry as before. Nothing of great value had been found to reward the company's investors, and the colonists had not yet developed the natural resources the land possessed.

In England, the Virginia Council attempted to find a formula that would put the colonial venture on a proper footing. That spring the members of the company were discussing what they considered to be fundamental changes for the

colony. The outcome of the venture would determine the fate of the English colony in Virginia.

By mid-February, King James granted the company a new charter and reorganized the company to achieve better results than the prior two years. Unfortunately, the government was given greater power and the laws were made more severe under "one able and absolute governor" with total authority to rule the colony, including the power to declare martial law. The company launched a massive public relations campaign from the pulpit and London printing presses. The message of the blitz equated the Jamestown colony with the grand national mission of England for imperial greatness that was providentially inspired. With an infusion of money from hundreds of patriotic investors, the company organized a massive fleet to sail to Virginia and win its national destiny through sheer force of will.

Sir George Somers was the admiral of the fleet and took his rightful place aboard the flagship, the *Sea Venture*, as did Governor Thomas Gates. Christopher Newport, too, was accustomed to command and would not tolerate being consigned to a lesser vessel. Gates stowed the colony's sealed instructions in a locked box in his cabin on the *Sea Venture*. Having the leaders of the fleet and of the colony all on one ship, along with the instructions for the governance of the colony, was imprudently risky and foolish. It would prove to be a fateful decision that would determine the course of the Jamestown colony. The three men agreed that they would sail along the new path far north of the equator to avoid any trouble with the Spanish in the West Indies — and they set sail during hurricane season.

On June 25, the feast of St. James, patron saint of fishermen and Spain, a ferocious tempest dispersed the fleet. Day turned to night in the inky darkness of the swirling storm. The hurricane "beat all light from heaven, which like a hell of darkness turned black upon us" for three days of "perpetual horror." The imperiled ships rocked violently in the thrashing seas, barely recovering from one wave when another struck. The ships struggled to remain seaworthy and regroup with each other. It seemed that God's worst affliction was sent against the flagship and the colony's leaders.

The *Sea Venture* leaked for three days as the exhausted crew barely staved off her sinking until the ship drifted to Bermuda, what frightened sailors labeled the "isle of devils." But the island paradise actually provided all the sustenance the castaways needed for a year. Meanwhile, the other ships limped to Jamestown and brought 400 hungry settlers but no supplies and no leaders or instructions. Chaos reigned in the colony as John Smith was nearly assassinated and dozens died during the "Starving Time" when the colonists resorted to eating roots, leather shoes and even other humans.

When Governor Gates miraculously sailed into Jamestown in a fleet of two ships ingeniously made from *Sea Venture* salvage and local materials in May 1610, he was shocked at the condition of the settlers and their colony. Gates unsympathetically assembled the colonists who had the strength and reproached them for the "sloth, riot and vanity" that he believed led to the "Starving Time." He laid down strict laws and regulations but soon realized that the prospects for survival were dim. He decided to abandon Jamestown and sailed down the James making for England.

At that moment, the new governor, Lord De La Warr, arrived in the Chesapeake and ordered his beleaguered predecessor back to Jamestown, where he also dressed down the colonists for their "many vanities and their idleness." He promised to "draw the sword of justice to cut off such delinquents." He drew up a draconian set of laws to compel obedience with the threat of the death penalty for many infractions and the whip for lesser ones. Undeterred by the continued failure of authoritarian regimes in Jamestown, the governor earnestly believed that discipline and martial rule would inspire success and work for the collective good.

De La Warr's successor, Sir Thomas Dale, unimaginatively implemented a code of "laws divine, moral and martial" to regulate every aspect of the lives of the colonists and provided harsh punishments for those who violated them. If the laws were harsher than those of England, "there was just cause for it." Only "the fear of a cruel, painful and unusual death" would force the commoners to work for the general good. The original settlers had been promised the rights of Englishmen in the first charter but had suffered martial law for half a decade.

However, from 1616 to 1619, the Virginia Company finally introduced a number of fundamental changes that set the Jamestown colony on the path to success. The company had so far invested more than £50,000 with almost no return. Investors were pulling out or not making scheduled payments. Few settlers wanted to risk death to live under a harsh set of laws and not receive any gain. The ensuing reforms shifted the colony away from a military form of organization to a model of free enterprise.

Of greatest significance to drawing migrants to Jamestown was the opportunity of owning private property. The new 1618 charter stated that any settlers who helped colonize Jamestown before April 1616 would be granted 100 acres of land; those colonists who adventured to Jamestown after that date would receive 50 acres of land. The company instructed Governor George Yeardley to set up "a laudable form of government." Meeting for the first time in 1619, the House of Burgesses was the first representative legislature in America and was directed to make "just laws for the happy guiding and governing of the people." It was more in accord with the traditional rights of Englishmen stretching back to the protections of the Magna Carta in 1215.

The promise of land and opportunity led almost 4,000 settlers to sail for Jamestown between 1618 and 1621. Private enterprise provided the basis on which to enjoy the profits earned by cultivating the cash crop of tobacco and shipping it to England. The Virginia Company experienced turbulent in-fighting and was made a royal colony in 1624. Nevertheless, built upon firmer principles, the colony would continue to grow and thrive in the coming decades.

The rule of law, liberty and self-government drew many more settlers than did the false promises of the martial regimes that predominated during the first decade of settlement. The Virginia Company had introduced and fostered a more capitalist framework of free enterprise that built the American character and shaped the American Dream at the dawn of the colonial era. It did so along the banks of the James River in Virginia. $

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Ken Guy

Artist in Steel

The American Bank Note Company picture-engraving department was long considered the best in the world. At American Bank Note the meticulous, demanding art of picture engraving involved a 10-year apprenticeship, and good art ability was a requirement for the apprenticeship. Kenneth Guy (Figure 1) applied and was accepted for such a position in 1943. At that time the department had lost some key people, and the world's leading producer of bank notes, stock certificates, bonds and stamps needed to start training additional picture engravers. William Ford, head of the department, was an outstanding portrait and picture engraver, trained by Robert Savage, the finest bank note picture engraver of the 20th century. Ken Guy had only completed 13 months of his apprenticeship when World War II intervened. After Army service, he was finally able to resume his training at American Bank Note in January 1946.

Ken Guy's training had an unusual aspect. Ford, who trained the postwar generation of picture engravers at ABN, was a left-handed man who had been forced to learn engraving with his right hand. Ken Guy was also left-handed, and Ford allowed him to engrave with his left hand, making Guy possibly the first left-handed picture engraver at American Bank Note.

Picture engraving in the US and English tradition involves both "cutting" (using a graver, or burin, to cut dots and lines directly into the steel) and etching (a process of applying a transparent ground to a die, then using an etching point to make the dots and lines of the design in the ground, and then putting acid onto the die, to eat into the steel where it has been exposed by the etching point). Human fleshwork and drapery (clothing) are cut, and everything else is etched — scenery, buildings, animals, trains, etc. The top of the craft is human portraits, as they are the most difficult part of bank note engraving. In the postwar era the picture engravers were taught to do both etching and cutting (in earlier years some engravers did only etching, and others, primarily cutting). With fewer people in the picture-engraving department in the postwar years, it was more important that the engravers could do both.

In 1953, a year before Guy's apprenticeship ended, he produced a special-delivery stamp for Haiti (Figure 2). Notice

1 Kenneth Guy at his desk, early 1980s.
2 Haitian special-delivery stamp, 1953. Notice the motorcyclists in front of the building.

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3 Pennsylvania Railroad Company stock certificate with special vignette of Horseshoe Bend at Altoona vignette, 1957. **4** Portrait of Dwight D. Eisenhower, 1958. **5** South Vietnam, 200 Dong note, 1958. National Bank of Vietnam building etched by Ken Guy. **6** Panama, three stamps of Cathedral set of 1963. Left to right: Moscow, Rome and Guadalupe, picture work by Ken Guy.

in particular the motorcyclists of flyspeck size in front of the building.

In 1957 Guy received the assignment to do what became a noteworthy engraving, the special vignette of Horseshoe Bend at Altoona for the Pennsylvania Railroad Company stock certificate (Figure 3). Guy also engraved the figure turning the wheel to the left of the main vignette. That figure is a smaller version of a vignette (the name for any picture engraving other than a portrait) engraved years earlier by Robert Savage from artwork by A. E. Foringer. The Horseshoe Bend vignette was notable enough to be used in the 1958 American Bank Note centennial history, *Story of American Bank Note Company* by William H. Griffiths.

By 1958 Guy was on his way in the picture-engraving field with two memorable jobs. One was a very good portrait of Dwight D. Eisenhower (Figure 4), for the double-page spread of Presidents appearing in the 1958 Griffiths history. American Bank Note engraved every President through Ronald Reagan, and Guy engraved Eisenhower, Carter and Reagan.

The other project was the National Bank of Vietnam building for the South Vietnamese 200 Dong note of 1958 (Figure 5). This vignette, all etching, is a large scene for the note. It was an auspicious beginning for Guy's bank note work.

American Bank Note did not produce many stamps in the postwar era, so Guy's portfolio includes only a limited number of postage stamps. Many of the stamps he engraved were for a large cathedral set for Panama, of which Guy did seven of 22 stamps in 1963. Three are shown here (Figure 6).

The 1950s and very early 1960s were in general a difficult period for ABN picture engravers because, after the death of the great allegorical-vignette artist, A. E. Foringer, in 1948, American Bank Note struggled to find good vignette art. Guy engraved vignettes from artwork by Ohrvel Carlson, John Crosman, Jean Van Noten, Paul Calle and others. American Bank Note finally found a worthy successor to Foringer

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7 Photograph of model for Lavin vignette painting No. 42. **8** Photo-reduction of painting of Lavin No. 42. **9** Berkshire Hathaway specimen stock certificate with Lavin No. 42, revignetted. **10** Lavin vignette No. 48, engraved in 1976. It was used on many securities.

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with the discovery of Robert Lavin in 1962. By the time of his last vignette painting in the early 1980s, Bob Lavin had provided 55 new vignettes and a number of "specials" (art done for one company). While Guy engraved many Lavin vignettes, the two shown here represent two vignette genres, one depicting allegorical figures and the other depicting working people.

Lavin No. 42 was engraved by Guy in 1973. This allegorical vignette is of considerable interest because of the art-imitating-life-imitating-art quality it offers. A portfolio to the right of the figure contains securities possibly modeled on some actual stock certificates, namely AT&T (with a portrait of Alexander Graham Bell), General Electric (with a Foringer vignette) and Philips Petroleum (with its image of Calliope). Shown in Figures 7, 8 and 9, respectively, are the model Lavin posed for the painting; the photo-reduction of the painting; and a Berkshire Hathaway stock certificate with the vignette, adjusted to a circular shape.

The other Lavin vignette is No. 48, showing four workers: a "suit," a hardhat, a female and a computer technician holding a tape reel (Figure 10). This vignette, engraved in 1976, saw considerable use and was one of the first general stock vignettes to picture a black man. Lavin's production of vignette paintings of working people introduced an alternative to a century-long monopoly of allegoricals, which were considered more timeless and therefore less susceptible to becoming obsolete. The working people vignettes were popular from the 1970s onward, and many of Lavin's later paintings were of this variety.

The first major bank note portrait assignment for Guy occurred in 1966, for the Brazil 10,000 Cruzeiros note (Figure 11). His excellent engraving of Santos Dumont was a very good beginning for Guy in the most challenging part of the picture-engraving field. One of the traditional advantages of a picture engraver's job at American Bank Note (compared with the Bureau of Engraving and Printing) in the 20th century was that the work was more varied — bank note vignettes and portraits, stock and bond vignettes and portraits, stamp vignettes and portraits, and miscellaneous picture

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11 Brazil, 10,000 Cruzeiro note, originally issued 1966, overprinted with "10 Cruzeiros Novos." Santos Dumont was Guy's first major bank note portrait. **12** Costa Rica, 50 Colones note, 1972–1977, engraved in 1971–1972. Ken Guy engraved the portrait of Manuel Maria de Peralta y Alfaro. **13** Venezuela, 10 Bolivares note, 1980, with portrait of Antonio Jose de Sucre engraved by Ken Guy. **14** "Woman at the pay phone" special vignette for AT&T Bell System companies' securities, 1965.

work. From the 1930s to the 1980s the work at the Bureau was primarily US postage stamps, along with some miscellaneous picture work. But from the 1970s onward the foreign bank note work done by US private-sector firms, such as American Bank Note, greatly diminished. Picture engravers of the postwar generation at ABN did more securities vignettes and portraits and fewer engravings for foreign bank notes and stamps than had their predecessors.

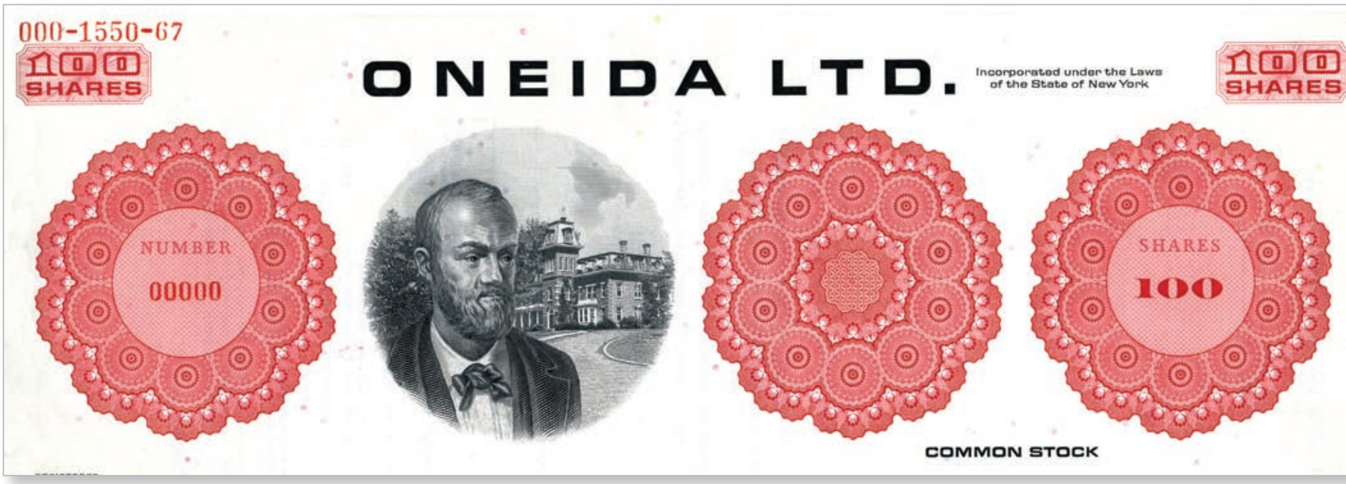
However, a top engraver such as Guy still had a good share of bank note projects. One particularly good portrait Guy engraved was of Manuel Maria de Peralta y Alfaro on the Costa Rican 50 Colones note of 1972–1977 (Figure 12), engraved in 1971–1972 and mistakenly attributed to the Thomas De La Rue firm by the *Standard Catalogue of World Bank Notes*.

Perhaps the most striking bank note portrait by Guy dates to 1980, when he engraved Antonio Jose de Sucre for the Banco Central de Venezuela 10 Bolivares note (Figure 13). This portrait was the subject of a complimentary letter from the vice president of the International Division of American Bank Note, who called the engraving a "superb job."

American Telephone and Telegraph Company was a good customer of the bank note firms because it was one of the most widely-held stocks and particularly because it and its subsidiaries (the Bell System companies) issued so many bonds. There were three or four different "woman at the pay phone" vignettes done for the Bell System by various bank note firms, and Figure 14 shows Guy's November 1965 engraving of the American Bank Note version. It is by far the best of the genre, an outstanding engraving from a very good photograph, and saw much use on Bell System bonds. Years later Guy engraved three special vignettes for the new stock certificates resulting from the breakup of AT&T, but those certificates deserve a separate article.

While Ken Guy did many "stock" vignettes (vignettes for general use, such as the Lavin series), the most memorable engravings he did were "specials," engravings for one company's securities. The vignette for the Pennsylvania Railroad mentioned above is one example, and following are other examples of some of his best special engravings.

For Oneida Ltd., Guy engraved a portrait of John Humphrey Noyes, the controversial founder of the Oneida Communities and a proponent of "free love." The community disbanded in the 1880s, and Oneida Ltd., the flatware company, was founded in 1881. The portrait of Noyes



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is notable because it was done from a drawing based on a bust sculpture. Guy's engraving was effective in translating a drawing made from a sculpture into a life-like portrait (Figure 15).

In 1972 Guy engraved two remarkable specials—a stunning portrait for an obscure company and an unusual piece of artwork for a famous company. For Elixir Industries, a small California firm being listed on the New York Stock Exchange (hence the need for a fully-engraved certificate), Guy engraved Mrs. Roland Sahlm, the wife of the chairman (Figure 16). This very unusual, large portrait of a woman seated in a wicker chair became one of the most notable portraits of Guy's career.

The other vignette, the image of man in an abstraction of concentric lines, was the special for Exxon Corporation, engraved from artwork provided by Exxon. It is a good engraving of an unconventional image (Figure 17). Because Exxon was a widely-held company, and in the 1970s holding stock certificates was not uncommon, Guy's vignette was seen by many Exxon shareholders. And, in fact, Guy himself was pictured in a story about the certificate published in the fall 1981 issue of Exxon's in-house magazine, *The Lamp*.

Another highlight of Guy's career was work done in 1981, when he engraved a portrait of the founder of Mary Kay Cosmetics, Inc. This unusually large portrait depicts Mary Kay wearing a fur, which required very dense etching to achieve the desired effect (Figure 18). The face is a magnificent example of engraving, truly

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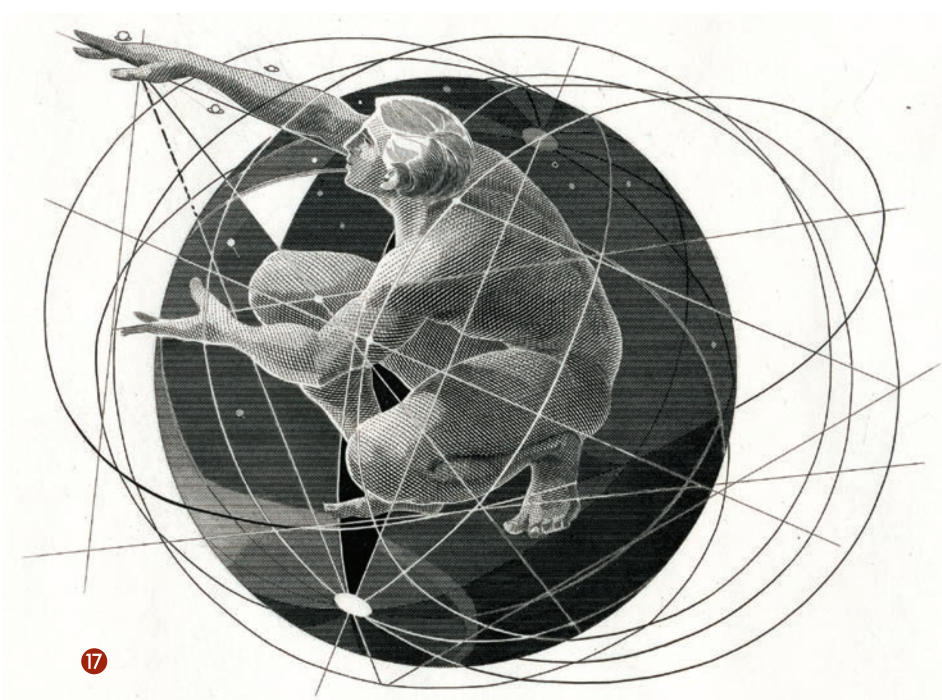

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15 Top portion of Oneida Ltd. specimen stock certificate showing portrait of John Humphrey Noyes. **16** Left hand portion of Elixir Industries specimen stock certificate, 1972, with portrait of Mrs. Roland Sahlm, engraved by Ken Guy. It is one of his best and most interesting portraits. **17** Exxon Corporation special vignette.

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18 Mary Kay Cosmetics, Inc. specimen stock certificate, with portrait of Mary Kay engraved by Ken Guy in 1981. This portrait and the Mrs. Roland Sahlm portrait are among Ken Guy's leading engravings.
19 Fleet Financial Group Inc. special vignette, 1982.

achieving a photographic effect. Picture engraving, especially portraits, involve translating a continuous form medium, in this case a photograph, into a dot-and-line medium in a way that will trick the eye into perceiving the image as photographic. That certainly happens with Guy's engraving of Mary Kay.

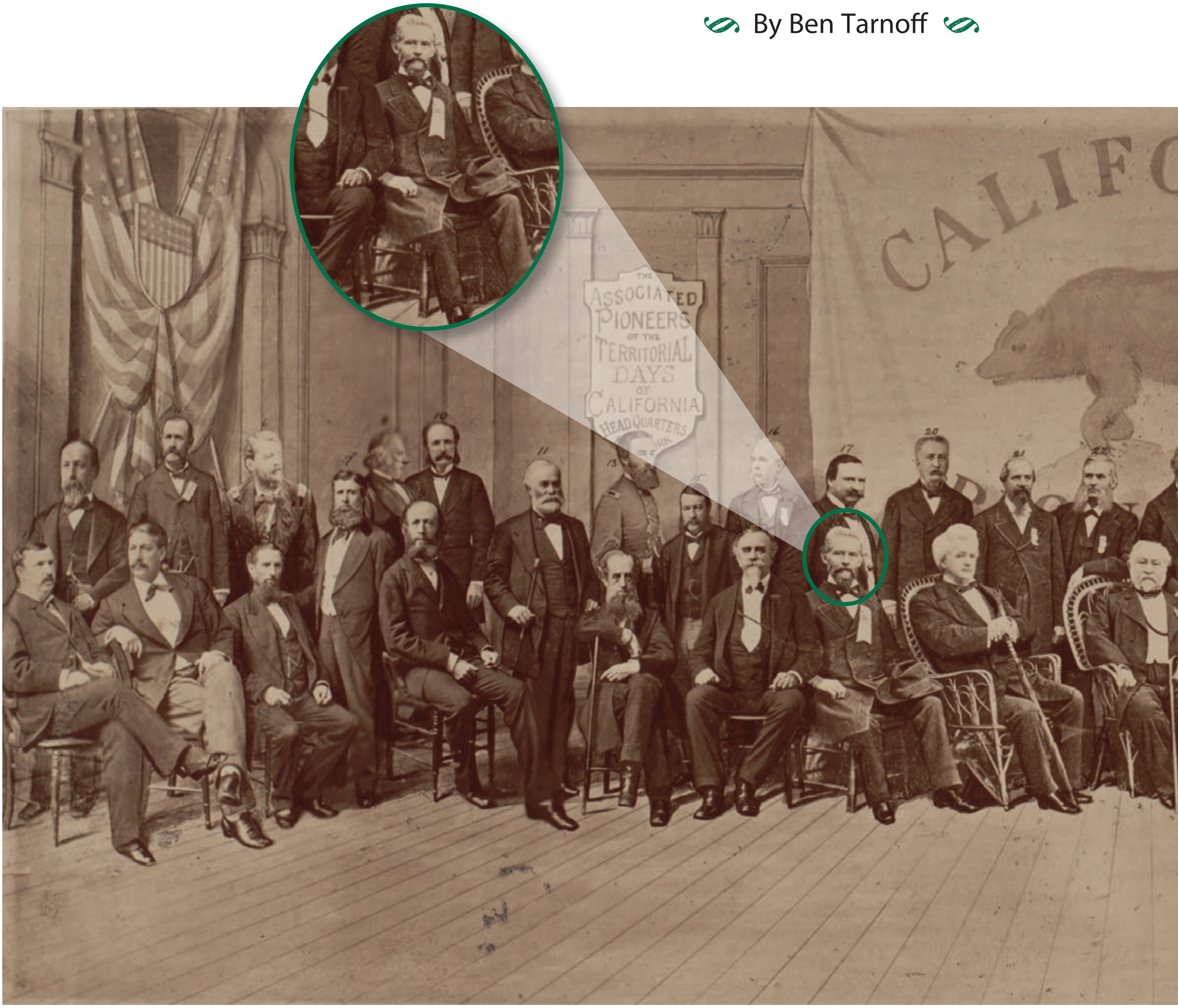
Fleet Financial Group Inc. in 1982 provided Guy with artwork of a sailor at the helm that became one of his favorite vignettes (Figure 19). Filled with sailing ships, great clouds, choppy water and a weathered captain, the vignette with its rope border achieves a strong nautical effect. It is a good example of fine artwork (an appealing subject) combining with excellent engraving to make a memorable vignette. An outstanding vignette requires both.

Guy retired in 1985 when American Bank Note was leaving its historic plant in the Bronx. He is the sole survivor and the best of the postwar generation of picture engravers at American Bank Note who trained under Bill Ford. It has been my privilege to know him for over 15 years, during which time Ken has shared with me much information about picture engraving and his work. Sadly, he saw American Bank Note go from the finest organization of its kind in the world to one that was greatly diminished by the time of his retirement. After his retirement, the company was taken over by its smaller competitor and went through bankruptcy reorganization. In any case, Ken Guy is the last great picture engraver in a very long and distinguished line of engravers produced by American Bank Note. $

Mark D. Tomasko is the Honorary Curator of Engraving at the Museum of American Finance. He collects, writes about, and does research on bank note engraving, documenting the engravers, designers, printers, and the bank note firms themselves, and has written numerous articles, done museum exhibits, and given talks on the subject. All objects shown are from his collection.

MONEY MAKER

By Ben Tarnoff



On February 22, 1862, damp flags fluttered along Pennsylvania Avenue as thousands of citizens walked toward the Capitol to commemorate the 130th anniversary of George Washington's birth. They passed beneath its unfinished dome in the wet, gloomy weather and joined the throng of people trying to get inside. Seated in the House of Representatives were the government's most powerful men: congressmen and senators, generals and commodores, cabinet members and Supreme Court justices. They had come to hear the secretary of the Senate read Washington's Farewell Address, the day's main event. In his final message as President, Washington had urged Americans to put aside their regional loyalties and unite as a nation — advice that, 10 months into the Civil War, must have seemed powerfully prophetic to the sea of solemn faces gathered in the crowded hall.

Not all celebrations were as somber as the scene at the Capitol. In Philadelphia, a shopkeeper named Samuel Curtis Upham watched lively crowds surging through the streets to the celebratory sounds of cannon fire. He stood about five feet eight inches tall, with a high forehead and a square chin. His frank, alert face exuded common sense and sobriety, qualities that set him apart from the merrymaking mob. When night fell, specially prepared lights illuminated the city. Merchants on Chestnut Street competed for the brightest, best-decorated storefront, adorning their windows with silk and satin banners dyed red, white and blue. Upham was one of them: his shop stood at the intersection of Chestnut and Fourth. He lit his store's narrow facade so brilliantly that it caught the eye of a passing journalist, and when Philadelphia's weary residents picked up the *North American and United States Gazette* that Monday, they found a description of it on the front page. Upham's facade featured one of the night's most impressive displays, the journalist wrote, "a blaze of glory from basement to apex."

On Monday morning, Upham woke up and went to work. He lived on the south side of town, about a mile and a half from his store at 403 Chestnut Street, where he sold stationery, newspapers and cosmetics with names like Upham's Hair Dye. Perhaps in part because of the *Gazette*'s favorable report, business that day was

Detail of Samuel Curtis Upham (center), age 58, from a group portrait of the Associated Pioneers of the Territorial Days of California,1877.

Courtesy of The Bancroft Library, University of California, Berkeley. BANK PIC 1963.002:1882 (enclosure)-D.

Counterfeit $5 Confederate note printed by Samuel Curtis Upham, with his tag attached.

brisk. One customer after another came in, and they all wanted the same thing: not the *Gazette* but its competitor, *the Philadelphia Inquirer*. Even after Upham ran out of copies, people kept stopping by to look for it. Puzzled, he asked one of his patrons what made that day's *Inquirer* so sought-after.

The answer was on page one. Just below the Gothic type of the newspaper's title, the editors had printed a copy of a $5 Confederate note. The *Inquirer*'s reproduction was primitive: the original had been beautifully executed in red and black ink, with finely textured etching that disappeared in the transfer to newsprint. But people didn't care: they had never seen rebel money before and were fascinated by it.

Upham wasted no time. He raced to the *Inquirer*'s cast-iron headquarters, a block away from his store, and persuaded the publisher William W. Harding to sell him a plate of the note. Then he called on a nearby printer and ordered 3,000 copies on French letter paper. When the bills were ready, he brought them back to his shop and sold them for a cent each. Along the bottom margin of the notes he included a thin strip that read in small print "Fac-simile Confederate Note — Sold Wholesale and Retail, by S.C. Upham, 403 Chestnut Street, Philadelphia." They sold extremely well. The novelty thrilled Philadelphians, most of whom expected the war to be brief and glorious. They wanted souvenirs of the rebellion before the Union crushed it.

After the success of his first print run, Upham began expanding his inventory. He searched everywhere for more issues and denominations. He insisted that his notes were souvenirs—"a curiosity ... worth preserving," as the original *Inquirer* article put it. But as Upham's enterprise grew, it became clear that his merchandise served another, less innocent purpose. The tags along the bottom of the bills bearing his name and address could easily be clipped off, transforming the "facsimile" into a counterfeit note. Upham, the respectable small-business owner, devoted patriot and upstanding member of Philadelphia's middle class, had become a counterfeiter.

Upham made an unusual addition to the pantheon of American counterfeiters. He hawked his counterfeits openly, on a busy street in one of the nation's most densely populated cities. He wasn't a bandit; he was a shopkeeper driven by the logic of supply and demand. Southern notes, issued by a government that was emphatically not recognized by the Union, had no legal status in the North, which meant Upham could forge them with impunity. The British military had counterfeited American currency during the Revolution; Upham, however, didn't belong to an official Union effort to undermine the Southern economy by flooding it with fake money. True to the American spirit of private enterprise, his operation came about as a for-profit business, not a government-sponsored campaign.

By the time the Civil War broke out, counterfeiting had been flourishing in America for more than a century. The absence of a strong central government, an anarchic economic system, and the irrepressibly entrepreneurial spirit of its citizens helped make the country a haven for counterfeiters from the colonial era onward. Counterfeiting gave enterprising Americans a chance to get rich quick: to fulfill the promise of the American dream by making money, literally. Stories of their rise and fall thrilled their contemporaries, who traded tales of these criminal adventurers in taverns and devoured the reports that appeared in the pages of local newspapers.

American counterfeiters had an early advantage over their European counterparts for one crucial reason: the British colonies in North America were the first governments in the Western world to print paper currency. Paper notes

appeared in response to the severe shortage of precious metals that was a persistent problem of colonial life. In 1690, colonial Massachusetts began printing "bills of credit" to pay its expenses from a war with French colonists. The crude quality of these notes made forging them fairly easy. Soon other colonies followed suit with their own notes.

After the Revolution, paper money became even more pervasive. Although the Constitution forbade individual states from producing currency, the states evaded this restriction by chartering private banks to print it for them. As the number of these banks increased, so did the quantity and variety of their bills. In 1800, there were 29 banks in the United States; 16 years later, the number had soared to 250. The nation's mushrooming financial sector benefited counterfeiters enormously. The dizzying diversity of American paper currency gave them an array of bills to forge. And with too many kinds of paper changing hands for the average American to be familiar with all of it, it became even easier to pass off a fake note undetected. By the 1850s, there were more than 10,000 different kinds of notes circulating in the US.

The arrival of the Civil War created a new kind of counterfeiter: someone who could forge currency without breaking the law. This paradox of a profession was perfect for Upham, whose own personality contained more conflicts and contradictions than would have been apparent to those who knew him only as a middle-aged shopkeeper. Only a few months after he started printing his "facsimiles," his name had become notorious in the Confederate capital of Richmond. The $5 bills he copied from the *Inquirer* surfaced there as early as April 1862, and caused a sensation at the Confederate Treasury Department. A Treasury officer persuaded the editors of the *Richmond Daily Dispatch*, the most popular of the town's papers, to spread the word about the new counterfeits. "This note is well calculated to deceive, and in nearly every particular is a fac-simile of the original," they wrote, condemning the forgeries as "Yankee scoundrelism." As more of Upham's bills poured in, their outrage grew.

Upham provoked such vitriol because he enabled people to undermine the Confederacy's authority. The South was prepared to send its citizens to the most gruesome deaths imaginable to secure its sovereignty. Its paper notes were symbols of that sovereignty, rectangles emblazoned with images that reminded people from tiny towns in Georgia or North Carolina that they were part of a proud, powerful country. "The attempt to pass a counterfeit Confederate note is certainly an act of hostility against our government," said the *Daily Richmond Examiner*. The fact that Upham challenged the Confederacy so openly — that he was brazen enough to put his name and address on his counterfeits — made Southerners even angrier. At 403 Chestnut Street in Philadelphia, a shopkeeper was selling stacks of fake Southern cash, and the Confederates couldn't do anything about it.

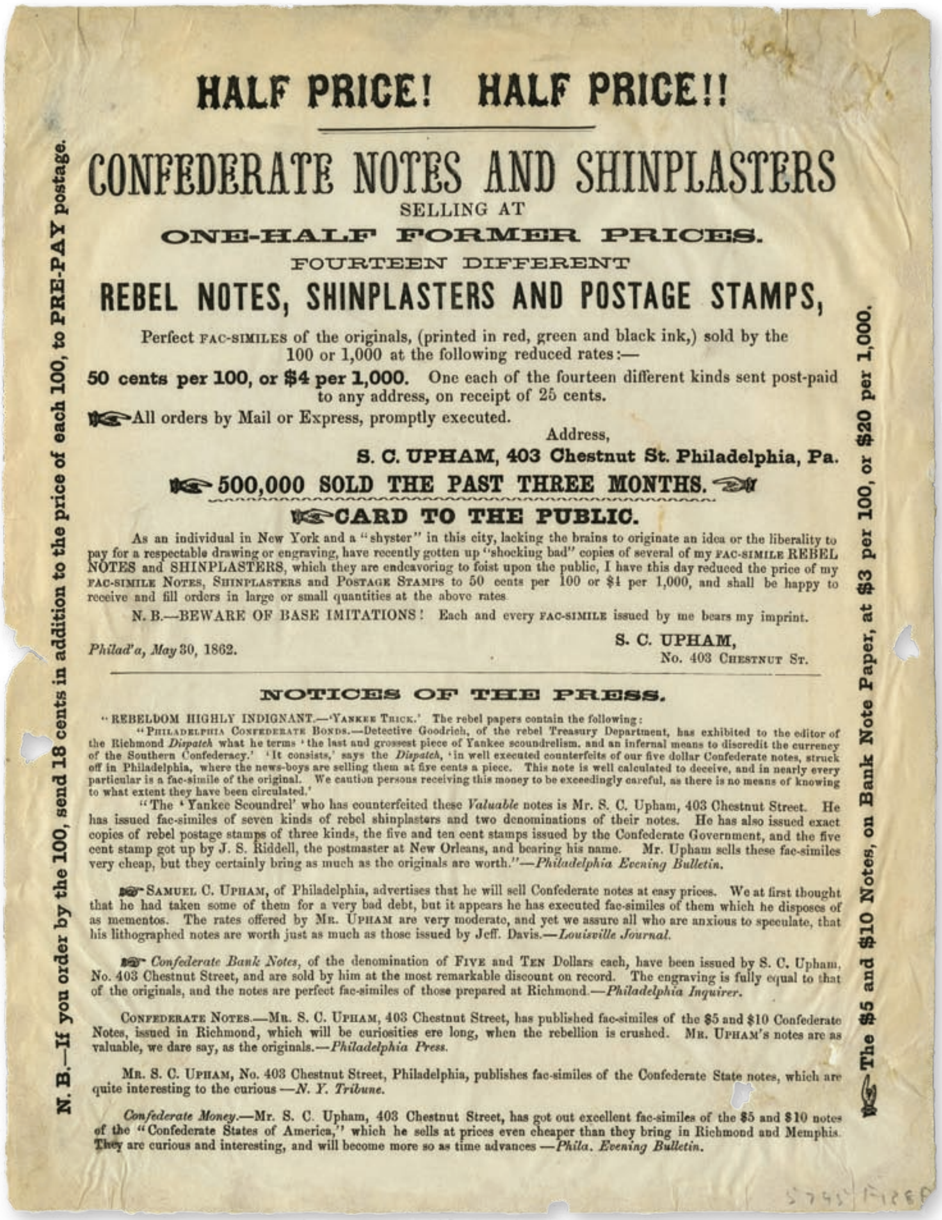
While Upham owed his success partly to the quality of his imitations, what really distinguished him was his skill as a salesman. Thanks to the Civil War, he could treat counterfeiting like a legitimate business. While steadily enlarging his catalog of Confederate currency, Upham attracted new customers by placing full-page advertisements in various Northern publications. As his business evolved from a modest retail operation into a high-volume wholesaling enterprise, there could no longer be any doubt about why people wanted his reproductions. A flyer published in late May claimed he had sold 500,000 facsimiles in the past three months. His inventory had grown to include 14 varieties of Confederate notes, shinplasters and postage stamps — and, for a premium, the notes could even be printed on real bank note paper. Ingeniously, Upham also began fulfilling orders through the mail. For 50 cents, plus 18 cents for postage, customers throughout the Union could have 100 of Upham's notes delivered.

The biggest passers of counterfeit Confederate cash were Union troops. They drew low wages, and fake notes obtained cheaply in the North offered an easy way to boost their income. They could use the money to buy provisions from Southern civilians, while also sabotaging the rebel economy. The role of Union soldiers in circulating counterfeits drew enraged responses from Southerners. The *Richmond Daily Dispatch* had no doubts about who had brought Upham's notes into the South: the bills appeared "wherever an execrable Yankee soldier polluted the soil with his cloven foot." As spurious notes streamed across the border in ever-greater quantities, Confederate leaders started to see the North's moneymaking operations as something more insidious than a handful of hustlers angling for a profit. They became convinced that the Union was waging a deliberate campaign of economic warfare against their currency. Southerners focused on Upham in particular. His energetic salesmanship helped persuade the Confederates that Union officials were involved. For the Philadelphia shopkeeper to be able to advertise his forgeries in newspapers and send them through the mail meant the authorities must have given him permission or, possibly, material support. How could the federal government not know?

If Secretary of State William H. Seward or Secretary of War Edwin M. Stanton had wanted to aid Northern counterfeiters, there were plenty of ways to do so. They could furnish them with Southern plates and bank note paper seized from captured blockade-runners, organize groups of soldiers and spies to spread forged notes throughout the South or just agree not to interfere with anyone trafficking in fake Confederate paper. But, contrary to Southern claims, there is no evidence of any officially sanctioned Union policy to promote the counterfeiting of Confederate money. Federal authorities most likely found it easier to ignore the forging of Southern bills than to take a position either for or against it. Certainly by the time Upham began manufacturing bills in bulk, the government didn't seem interested in preventing it.

For all its strengths, Upham's business model had a fatal flaw. The more counterfeits he sold, the less valuable Confederate notes became, depressing demand for his product. Of course, the notes would depreciate without his help. Mounting expenses forced the Confederacy to continue printing more notes. Southern dependency on paper currency was self-reinforcing: as the value of the notes fell and prices rose, the Confederate Congress ordered more bills to meet the government's costs, further depreciating the currency. Upham hastened their decline, which would inevitably take a toll on his trade. His fortunes were tied to those of the Confederacy, a peculiar situation for a Northern patriot.

Too much paper money wasn't the only



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CARD TO THE PUBLIC.

As an individual in New York and a "shyster" in this city, lacking the brains to originate an idea or the liberality to pay for a respectable drawing or engraving, have recently gotten up "shocking bad" copies of several of my FAC-SIMILE REBEL NOTES and SHINPLASTERS, which they are endeavoring to foist upon the public, I have this day reduced the price of my FAC-SIMILE NOTES, SHINPLASTERS and POSTAGE STAMPS to 50 cents per 100 or $4 per 1,000, and shall be happy to receive and fill orders in large or small quantities at the above rates.

N. B.—BEWARE OF BASE IMITATIONS! Each and every FAC-SIMILE issued by me bears my imprint.

Philad'a, May 30, 1862.

S. C. UPHAM,
No. 403 CHESTNUT ST.

NOTICES OF THE PRESS.

"REBELDOM HIGHLY INDIGNANT.—'YANKEE TRICK.' The rebel papers contain the following:

"PHILADELPHIA CONFEDERATE BONDS.—Detective Goodrich, of the rebel Treasury Department, has exhibited to the editor of the Richmond *Dispatch* what he terms 'the last and grossest piece of Yankee scoundrelism, and an infernal means to discredit the currency of the Southern Confederacy.' 'It consists,' says the *Dispatch*, 'in well executed counterfeits of our five dollar Confederate notes, struck off in Philadelphia, where the news-boys are selling them at five cents a piece. This note is well calculated to deceive, and in nearly every particular is a fac-simile of the original. We caution persons receiving this money to be exceedingly careful, as there is no means of knowing to what extent they have been circulated.'

"The 'Yankee Scoundrel' who has counterfeited these *Valuable* notes is Mr. S. C. Upham, 403 Chestnut Street. He has issued fac-similes of seven kinds of rebel shinplasters and two denominations of their notes. He has also issued exact copies of rebel postage stamps of three kinds, the five and ten cent stamps issued by the Confederate Government, and the five cent stamp got up by J. S. Riddell, the postmaster at New Orleans, and bearing his name. Mr. Upham sells these fac-similes very cheap, but they certainly bring as much as the originals are worth."—*Philadelphia Evening Bulletin.*

SAMUEL C. UPHAM, of Philadelphia, advertises that he will sell Confederate notes at easy prices. We at first thought that he had taken some of them for a very bad debt, but it appears he has executed fac-similes of them which he disposes of as mementos. The rates offered by MR. UPHAM are very moderate, and yet we assure all who are anxious to speculate, that his lithographed notes are worth just as much as those issued by Jeff. Davis.—*Louisville Journal.*

Confederate Bank Notes, of the denomination of FIVE and TEN Dollars each, have been issued by S. C. Upham, No. 403 Chestnut Street, and are sold by him at the most remarkable discount on record. The engraving is fully equal to that of the originals, and the notes are perfect fac-similes of those prepared at Richmond.—*Philadelphia Inquirer.*

CONFEDERATE NOTES.—MR. S. C. UPHAM, 403 Chestnut Street, has published fac-similes of the $5 and $10 Confederate Notes, issued in Richmond, which will be curiosities ere long, when the rebellion is crushed. MR. UPHAM'S notes are as valuable, we dare say, as the originals.—*Philadelphia Press.*

MR. S. C. UPHAM, No. 403 Chestnut Street, Philadelphia, publishes fac-similes of the Confederate State notes, which are quite interesting to the curious.—*N. Y. Tribune.*

Confederate Money.—Mr. S. C. Upham, 403 Chestnut Street, has got out excellent fac-similes of the $5 and $10 notes of the "Confederate States of America," which he sells at prices even cheaper than they bring in Richmond and Memphis. They are curious and interesting, and will become more so as time advances.—*Phila. Evening Bulletin.*

N. B.—If you order by the 100, send 18 cents in addition to the price of each 100, to PRE-PAY postage.

The $5 and $10 Notes, on Bank Note Paper, at $3 per 100, or $20 per 1,000.

Advertising circular from Samuel Curtis Upham, dated May 30, 1862.

thing causing the decline of the Confederate dollar. The value of Treasury notes relied to a great extent on something the Confederate Congress couldn't control: the public's perception of whether the South was winning the war. The better the Confederacy fared, the better chance it would keep its promise to eventually exchange its notes for gold or silver, and thus the more desirable the bills. Some Treasury notes made this connection explicit, like the $5 bills that Upham first counterfeited, which promised their redemption six months after the ratification of a treaty between the Confederacy and the Union.

In the second half of 1862, the decline in the value of Southern currency picked up speed. On August 1, a gold dollar cost two Confederate paper dollars; by the end of the year, it cost $3.25, an increase of more than 60%. This precipitous drop in value coincided with a series of events that changed the Southern view of the war. The Battle of Antietam took place on September 17, Lincoln introduced the Emancipation Proclamation on September 22, and by November 4, most Northern states had voted in the congressional elections, leaving the Republicans in control of Congress. Taken together, these developments demonstrated the Union's will to fight. The North sacrificed thousands of men to eke out a narrow victory at Antietam, and then committed itself to waging total war by targeting the South's core institution. Continued Republican supremacy in Congress ensured that Lincoln's policies would remain in place, and eliminated any possibility of a negotiated peace. The consequences for the Southern money market were clear. A protracted struggle would prolong the redemption of the notes, perhaps indefinitely. And, in the event of a Union victory, not only would Confederate currency be worthless but the entire economic system it was based on would be dismantled.

Upham abandoned the counterfeiting business in August 1863. By that time, Confederate currency was in a free fall. Runaway inflation and deepening distrust of the Richmond government had driven the price of gold in Confederate dollars up 500% in the past year. That summer, the Battle of Gettysburg dealt the Confederacy a painful defeat, and when the news reached the South, it triggered another steep decline in the money market. Upham sold his store at 403 Chestnut Street and opened a different kind of shop five blocks away. With no medical training whatsoever, he began hawking cures. He styled himself a chemist and called his store a laboratory, marketing his remedies as vigorously as he had his counterfeits. He patented his treatments and took measures to discourage bootleggers. "Beware of Counterfeits," one of his flyers warned.

Upham had moved from one swindle to another, from counterfeiting to quackery. He had nothing to recommend him but his talent as a salesman, which was considerable. His business thrived. He enjoyed an impeccable reputation, paid his debts on time, and had no trouble obtaining credit. On June 29, 1885, he passed away. At 66 years old, he died neither rich nor poor but somewhere in between, solidly middle class to the end. His brief obituary in the *Philadelphia Inquirer* did not include a word about his counterfeiting career. He was killed by stomach cancer, in the privacy of his own home—a quiet, un-dramatic end for a man who had masterminded one of the most extraordinary counterfeiting schemes in American history. $

Ben Tarnoff is the author of Moneymakers: The Wicked Lives and Surprising Adventures of Three Notorious Counterfeiters *(Penguin Press, 2011). He has worked as an assistant editor at* Lapham's Quarterly *and lives in New York.*

INSURANCE

Antebellum America's Other White Meat

By Robert E. Wright

If America's financial system was a buffet, commercial banks would be the chicken. (And periodically the turkey, but that is another story.) In the antebellum period, now, and almost every "course" in between, politicians, pundits and researchers gorged their brains on banks, banknotes, bankers, bank regulations, bank architecture and just about everything else bank-related. But there was another white meat at the buffet — one much less rhapsodized but almost as important to Americans' financial palates: insurers.

Table 1 tells the tale. Between the founding of the republic and the Civil War, *America's financial entrepreneurs chartered more insurers than commercial banks*. Banks enjoyed more authorized capital than insurers did, but they also caused more economic and political heartburn when they got into trouble. Though outnumbered, specially chartered

Illustration depicting 19th century firefighters on the scene of a conflagration in downtown New York. Currier and Ives print, 1854.

TABLE 1 Number and Authorized Capital of Specially Chartered US Insurers and Banks by State, 1790–1860

State	No. Insurers	Insurers' Capital (mill. USD)	No. Banks	Banks' Capital (mill. USD)
Alabama	56	$5.505	15	$6.970
Arkansas	5	$0.450	4	$2.225
Colorado	1	$0.050	0	$0.000
Connecticut	64	$4.470	76	$17.580
Delaware	10	$0.250	17	$3.445
District of Columbia	3	$0.777	0	$0.000
Florida	8	$5.150	24	$4.935
Georgia	31	$9.350	50	$19.375
Illinois	86	$4.510	7	$2.300
Indiana	43	$1.410	4	$0.180
Iowa	4	$0.200	0	$0.000
Kansas	11	$2.100	4	$1.100
Kentucky	72	$11.050	80	$29.660
Louisiana	24	$7.700	14	$44.000
Maine	124	$2.235	165	$14.480
Maryland	83	$12.230	54	$26.760
Massachusetts	368	$31.013	272	$61.150
Michigan	12	$1.000	23	$4.300
Minnesota	3	$0.100	0	$0.000
Mississippi	22	$2.590	15	$4.500
Missouri	121	$7.525	5	$7.500
Nebraska	5	$0.125	5	$0.450
New Hampshire	47	$0.850	89	$4.890
New Jersey	79	$1.700	63	$9.820
New York	221	$40.450	101	$39.085
North Carolina	22	$0.970	27	$14.900
Ohio	108	$8.410	49	$16.325
Oregon	2	$0.000	0	$0.000
Pennsylvania	250	$23.785	113	$40.680
Rhode Island	60	$5.677	110	$11.005
South Carolina	20	$5.000	25	$17.200
Tennessee	18	$2.045	18	$16.085
Texas	17	$2.525	2	$6.000
Vermont	20	$0.565	58	$2.409
Virginia	66	$6.660	71	$14.850
Wisconsin	34	$4.470	4	$1.100
Totals	**2,120**	**$212.897**	**1,564**	**$445.259**

commercial banks had more total capital than insurance companies because almost two in every five insurers were organized as mutuals. In other words, they were owned by their policyholders, not by stockholders, and hence had no equity capital in the traditional sense. (They did retain some profits in rainy day contingency funds, but most evidence of the extent of those funds has long since spoiled and been fed to the dogs — so to speak.)

In the broadest sense, chicken and pork are both sources of sustenance. Similarly, banks and insurers are both financial intermediaries. In other words, they link savers to entrepreneurs via their balance sheets, their assets and liabilities. Banks loan their capitals, deposits and notes to businesses, individuals and governments. Insurers loan their capitals and premiums to the same types of borrowers. Closer inspection, however, reveals that chicken and pork taste quite different and provide somewhat different nutrients, like more or less fat, depending on how they are cut and prepared. The same goes for banks and insurers.

On the asset side of the balance sheet, antebellum banks invested most heavily in short-term commercial paper like bills of exchange and promissory notes. Insurers, by contrast, tended to make longer-term loans like mortgages. According to an 1827 estimate, some 80% of the assets of insurance companies in New York were invested in bonds and mortgages on real estate. Insurers also lent via specialized insurance-oriented loans like bottomry and respondentia contracts. "The contract of Bottomry," Dr. Henry Pleasants, Jr. noted in his commonplace book in October 1801, "is in the nature of a mortgage of a Ship, when the owner of it borrows money to enable him to carry on the Voyage & pledges the keel or bottom of the ship as a security for the repayment." It was "understood that if the ship be lost, the lender also loses his whole Money but if it return in safety, then he shall receive back his principal, and also the premium or Interest stipulated to be paid, however it may exceed the usual or legal rate of Interest."

"Respondentia," another contemporary observed, "differs from Bottomry only in this that whereas the latter is upon the Ship, the former is upon the Goods on board & in that case the borrower is

personally bound — In other respects the same principles govern in both cases."

But it was on the liability side of the balance sheet where insurers most prominently emitted their distinctive aromas and flavors. Instead of offering demand liabilities like deposits or notes, insurers offered policies, contracts that promised payment contingent upon the occurrence of some unfortunate event like a fire, shipwreck or death. Just like people today, antebellum Americans used the contracts to hedge against life's many risks. For that reason, famed economist Adam Smith extolled the industry, arguing that "the trade of insurance gives great security to the fortunes of private people, and by dividing among a great many that loss which would ruin an individual, makes it fall light and easy upon the whole society."

In 1835, the anonymous author of *An Inquiry Into the Nature and Utility of Corporations Addressed to the Farmers, Mechanics, and Laboring Men of Connecticut* explained that without insurers "commerce would languish" because "without the security they offer to mercantile hazards, who would risk his fortune upon the perilous ocean? Who would embark in the business of transporting to distant and foreign markets, the surplus production of our soil, and industry, and bringing back in return the invaluable commodities of other climes; if by the event of tempest or accident, the whole property of the adventure might be buried in the deep, without hope of recovery or recompense?" That same author noted that "the persons most benefitted [sic] by insurances" were not the rich but rather "those of moderate property, and those who are just embarking in business with a small or borrowed capital" because without coverage "the house or shop of an industrious mechanic might be laid in ashes, and the earnings of a long and arduous life, consumed in a single breath — and himself and family be thrown houseless and destitute upon the charities of the world, unless the means were wisely provided for an indemnity against such accident."

Many authors believed that insurance should be underwritten only by relatively large corporations. "It is necessary," Smith wrote, "that the insurers should have a very large capital. Before the establishment of the two joint stock companies for insurance in London, a list, it is said, was laid before the attorney-general of 150 private insurers who had failed in the course of a few years." In America, individual underwriters never dominated the fire or life portions of the insurance industry and the traditional system of individual private underwriters insuring marine risks through unchartered insurance brokerages largely gave way to chartered corporate insurers by 1815 or so, although some private underwriting continued into the 1820s in smaller ports.

Table 2 breaks down America's antebellum insurers by the type of risks they underwrote and their capital structure. As mentioned previously, mutuals were owned by their policyholders and had no equity capital. Joint stock insurers were owned by stockholders. Hybrids were part mutual and part joint stock and hence were owned partly by policyholders and partly by stockholders. Miscellaneous types of insurance included ransom, livestock and horse theft insurance. Of the three major lines — fire, life and marine — life insurers were the least numerous and attracted the least equity investment. Life insurance grew slowly before the Civil War for a variety of technical reasons. New entrants pushed the value of life insurance in force to around $100 million circa 1850, but by 1860 the lives of only about 70,000 Americans, mostly middle- and upper-income urban northeasterners, were insured, for a total of about $150 million.

Slaves were insurable, but more as livestock than people because what masters insured was a percentage of the slave's market value, not a multiple of his or her expected future income. Slave insurance was sometimes written by fire insurers and sometimes by regular life insurance companies, but specialized slave insurers such as the Baltimore Life Insurance Company, North Carolina Mutual and Greensboro Mutual issued most policies. The number of policies issued was not large because premiums were high and policies short due to a dearth of slave mortality data and concerns about moral hazard (killing "unsound" slaves for cash) and adverse selection (insuring only slaves who were sick or engaged in dangerous work). The business grew rapidly in the 1850s, however, especially for slaves engaged in construction, mining or manufacturing activities.

Insurers were economically less important and politically more controversial than banks because they generally did not influence the money supply or the payments system (although a few insurers of ill repute issued money-like bonds). They became objects of public derision only when they failed to pay claims due to their bankruptcy or a proclivity for lawsuits. A few insurers boasted of their acumen at fighting claims in court, but many realized that cultivating a reputation for resisting claims was counterproductive in the long run. Insurers sometimes won courtroom

TABLE 2 Antebellum Insurers by Line of Business and Capital Structure

Line of Business	Total Insurers	Capital ($ mill.)	Mutual	Hybrid	Joint Stock
General All Types	405	$46.145	75	33	297
Fire All Types	1,111	$83.260	605	80	426
Life and Health	148	$22.918	44	30	74
Marine All Types	400	$58.835	69	11	320
Miscellaneous	56	$1.740	32	4	20
Totals	**2,120**	**$212.898**	**825**	**158**	**1,137**

Fire consumes a ship in the mid-Atlantic, costing the lives of 456 people.

battles, but hostile juries and a due respect for securing future business made many eager to settle claims amicably. In 1854, for example, New Castle Mutual in Delaware informed John H. Barr that it did not have to honor his claim because "the property had been used for other purposes than that for what it had been insured." Nevertheless, the company was "disposed to make a fair and equitable settlement" and chose appraisers to ascertain "what sum would place the property in as good condition as before the fire." It ended up paying Barr $417.81.

Insurers were well aware of the concepts of "adverse selection" and "moral hazard" even though those terms were not in general use until the late 19th century. In 1852, for example, the Kentucky Mutual Insurance Company reminded its agents about adverse selection by pointing out that "in receiving applications for insurance, great caution is necessary, from the fact that persons in impaired health, or who have fears as to the permanency of their health, are naturally more likely to apply for insurance than those in the possession of perfectly sound health." Like many life insurers, Kentucky Mutual relied on independent examiners to reduce adverse selection by certifying the health of applicants.

Antebellum insurers also worked to reduce risks by offering premium reductions to policyholders that enacted safety practices. For example, they offered discounts for employing a night watchman or utilizing the best anti-fire or anti-theft technology available. Fire insurers worked hard with policyholders to make buildings more fire resistant. Marine insurers overcame free-rider problems to provide public and club goods, including lighthouses, buoys, rescue boats and the like, and also urged the adoption of safer ship designs and nautical practices. Life insurers could not prevent death, but they did help people take steps to prolong their lives and by educating people about the risks of unexpected or premature death and pushing for the reform of outdated debt and coverture laws they helped improve the lives of widows and orphans.

The managers of some insurers, however, expropriated policyholders and/or stockholders, turning their companies into the financial equivalent of undercooked pork larded with trichinosis. At various times and places, they colluded to fix premium levels above the market rate, a boon to themselves and stockholders but bad news for their customers. The managers of other insurers, by contrast, issued risky policies at cut rates to friends. "Experience shows," a stockholder in a particularly poorly-governed insurer argued, "that vessel owners ought not to be Directors in Insurance Companies — their interest is at variance with the interest of the

permanent Stockholders.… They play into each others' hands — voting on each others' Risks, reducing the premiums and taking bad vessels &c." Other insurers assumed undue risks in myriad technical ways, like using unduly optimistic interest rate, expense or mortality assumptions. In Pennsylvania in the 1850s several insurers stole most of the cash of distant stockholders and policyholders and invested the rest in nearly worthless assets that they listed on their financial statements at greatly inflated values.

Large scale managerial expropriation, however, was the exception rather than the rule in the early US insurance industry because policyholders and stockholders had a number of tools, including prudent mean voting rules, charter restrictions and investigatory committees with broad powers that allowed them to monitor directors and officers and to punish wayward ones. Stockholders and policyholders generally knew how to cook their pork thoroughly, so many antebellum insurers provided solid services and thrived for years, decades and even to the present. The Kent County Mutual Insurance Company was incorporated in Delaware on February 22, 1847, and the New Castle Mutual Insurance Company, later the New Castle Mutual Company, also of Delaware, was chartered on February 6, 1849. In both companies, directors elected by and beholden to the policyholders played substantial roles. The two companies survived early tribulations, including the Civil War, merged with each other in 1962, and are now part of Westfield Insurance.

Like commercial banks, early insurance companies were financial intermediaries that linked lenders, their stockholders and purchasers of insurance contracts with entrepreneurs, borrowers and securities issuers. Early insurers were not as important intermediaries as commercial banks were because they were not as highly capitalized and rarely supplied the economy with cash. Moreover, insurance companies were much more reliant on banks for short-term loans to smooth out cash flows than banks were on insurers for fire or other types of insurance. Insurers, however, supplied risk pooling and mitigation services that banks did not. So while banks were the chicken meat of the financial system, insurers were the pork, the other white meat, an important source of financial nutrition in their own right. $

Robert E. Wright is the Nef Family Chair of Political Economy at Augustana College and the director of the Thomas Willing Institute for the Study of Financial Markets, Institutions, and Regulations. He is also the author of numerous books, including most recently Fubarnomics *(2010), and is on the editorial board of* Financial History *magazine.*

Sources

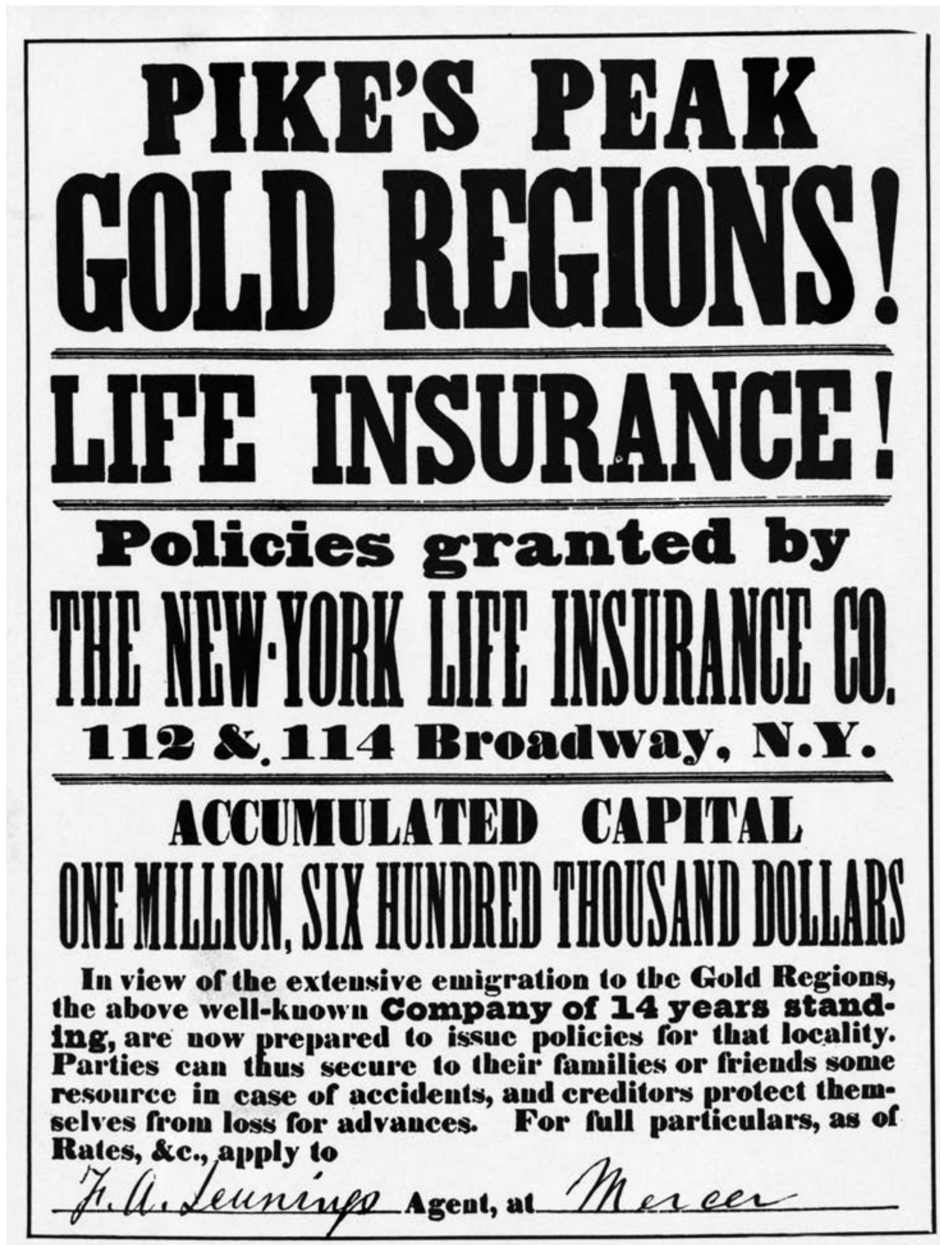
Kingston, Christopher. "Marine Insurance in Britain and America, 1720-1844: A Comparative Institutional Analysis," *Journal of Economic History* 67, no. 2 (2007): 379-409.

Murphy, Sharon Ann. *Investing in Life: Insurance in Antebellum America* (Baltimore, 2010).

Sylla, Richard E. and Robert E. Wright, "U.S. Corporate Development, 1801-1860," NSF Grant No. 0751577.

Wermiel, Sara E. *The Fireproof Building: Technology and Public Safety in the Nineteenth-Century American City* (Baltimore, 2000).

Wright, Robert E. "Insuring America: Market, Intermediated, and Government Risk Management Since 1790," in Leonardo Caruana, ed. *Encuentro Internacional Sobre La Historia del Seguro* (Madrid, 2010), 239-98.



Advertisement for life insurance policies for gold prospectors going West to the Pike's Peak gold regions. Advertiser is the New York Life Insurance Co., circa 1859.

NERDS on WALL ST

An Illustrated History of Wired Markets

By David Leinweber

Not long ago, trading on a stock market meant you would be in a crowd of people energetically shouting, running around and making a mess with great quantities of paper. No more. Visiting a financial market now is more like visiting the "cloud," a big data center. Computers and network gear hum in racks. Fans blow. Rows of tiny lights flicker. Occasionally someone shows up, but don't count on much water cooler conversation.

Technology did not suddenly transform our markets. It has been a gradual process, and understanding how we got here, and the simpler machines we used along the way, provides insight into today's complex markets. It turns out that going back to the basics, from the buttonwood tree and hand signals, is a good way to explain technology that can seem hopelessly complex and buried in jargon.

Looking into the workings of modern securities markets is like looking under the hood of a Prius hybrid car. There are so many complex and obscure parts it's hard to discern what's going on. If one looks under the hood of an auto from a simpler era, for example a '64 Mustang, it is possible to see the parts and what they do, and have a better chance at understanding their complex modern replacements.

History repeats and informs in market technologies. From the days when front-running involved actual running to the "Victorian Internet era" brought on by telegraphy, we can learn a great deal from looking back at a simpler era.

We think that the overwhelming influence of computers remaking the landscape around Wall Street today is something new, but a pair of before-and-after photographs show an even more dramatic technological invasion. Before telegraphy, in the 1850s, the sky over Wall Street was open and clear. 1

1

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It took only a short time for telegraphy's compression of time and space to transform the scenery. Here's what the Street looked like shortly thereafter when everybody had to have it. 2

In its day, telegraphy was seen as the same kind of overwhelming transformation that the Internet is today. In many ways, the telegraph was more dramatic since it was the first time in history that a message could be sent beyond the horizon instantaneously.

Changes in markets brought about by technology are anything but subtle: The exchange floors are an endangered species. Here's a photogenic example, the London Stock Exchange trading floor the day before and the day of the introduction of screen trading — the "Big Bang" — on October 27, 1986. 3 4

The trading floors that have been emblematic of financial markets around the world are an endangered species. Brokers and traders who once relied on fast reflexes and agile elbows and knees now rely on computer programs, tweaked to be microseconds faster than the next guy's program.

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Closing the floor and rolling in the machines has a sentimental cost. When markets become technology, the human price of progress is high. Anyone who has been on the 20th century floor in New York or Chicago knows those markets are really personal, face-to-face, elbow-to-elbow and knee-to-knee experiences. People are justifiably saddened that when too much technology gets mixed up with markets, some of the vibrancy that makes them so fascinating is lost.

A trading floor peopled with traders and brokers also makes for some colorful moments in market history, such as the opening of the live hog futures contract on the Chicago Mercantile Exchange (CME) in 1966. (These guys are definitely having more fun than loading the hog program onto a Unix box in New Jersey.) 5 The CME continued the lively tradition for financial futures as well. 6

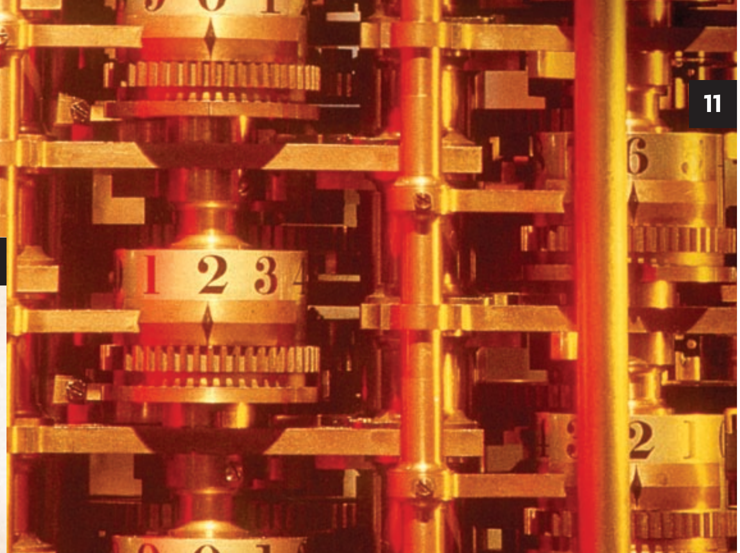
There's so much technology in modern markets that it's easy to forget that some of our favorite markets, like the New York Stock Exchange (NYSE), started out as very low-tech places. In 1792, the NYSE was a bunch of guys standing around a buttonwood tree at 68 Wall Street shouting at each other on days when it didn't rain or snow. 7

We like our markets to be liquid, efficient, resilient and robust. But this is hard to do when all of the participants have to crowd around a tree and hope for good weather. So in 1794 came the first big technological solution: the roof. 8

Everybody moved inside, to the Tontine Coffee House at the corner of Water and Wall Streets. Even under a nice cozy roof only so many shouters could participate in the market, and more participants is a good thing. Pretty soon technology solved this problem.

Hand signals and chalkboards worked really well. Now hundreds of people could participate in the market. Of course, this made for more broken trades. Here we see how they resolved them back in those days: the buyer dresses up in a bull suit, the seller dresses like a bear, and they duke it out up front. 9

So far, these innovations may sound rather low-tech: roofs, chalk, hands. Here's what a computer looked like in 1823,



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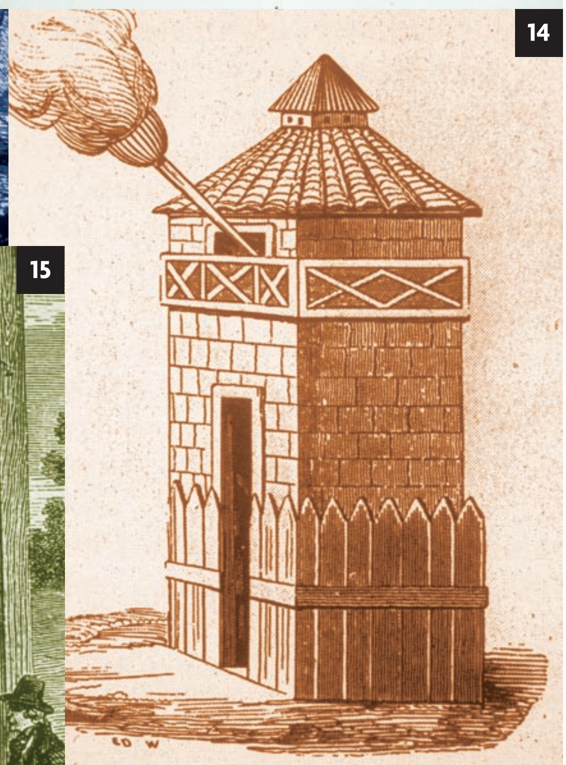

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the Difference Engine, invented by the famously brilliant, eccentric and obnoxious Charles Babbage. 10 11

Babbage was stunningly smart, and even more stunningly insufferable. He lost his government funding, and the idea of automatic computing languished for many years. It was not used in financial markets or anywhere else in the 19th century. Babbage only built pieces of his machine; but when the Royal Museum in London put a whole one together from his designs in 1995, it worked perfectly. The world could have been a very different place if Babbage had had better manners. Instead, traders were still signaling each other with their hands, dancing and dressing up in bear suits, and there was still a problem: they had to be present to participate in the market. This problem was solved with more technology, namely telegraphy. The earliest telegraphs weren't the electric variety. They were guys standing on hills waving flags, like the ones used at sea. 12

There were lots of problems with the flag system. For one, it was hard to see a little guy way up on a hill. In most places, people starting building big mechanical guys like this one, with large wooden arms, and put them up on the hill instead. 13

There were a few variations on this theme, such as the smoke-and-fire telegraph tower 14, which had a problem with burning down mid-message … and the decoder-ring-on-a-stick design. 15

These towers are the reason so many cities have a place called "Telegraph Hill." Around the world, the builders and first users of these early telegraph systems were the military, for obvious reasons. The second users were traders disseminating market information. The third users typically were con men perpetrating financial frauds on the traders by sending out false signals or front-running the real ones. There were many problems with the flag system, namely privacy, bad weather and darkness. It took about half an hour for a price change to work its way from New York to Philadelphia.

18

There were some really marvelous early attempts at electric telegraphs to enhance the communication system. Here's an electrostatic model, with a wire for each letter and number, and a range from the living room to the parlor, powered by some fur rolling over a piece of rubber — sort of the rub-a-balloon-on-your-head approach. 16

Here's another British multi-wire device with a battery and a saltwater receiver. 17 Remember how in high school chemistry lab if you put wires from a battery into saltwater, one of them bubbled? It was the same deal here. There was a ball for each letter, and you looked to see where the bubbles showed up.

Here's one that tried to use tones for letters. It was the first singing telegraph and made signals like the keyboard at the end of *Close Encounters of the Third Kind*. 18

I have no idea how this one was supposed to work, but when they said "sell," you sold. 19

Julius Reuter and his son Herb 20 decided to try another approach. They got into the messenger pigeon business. Edward G. Robinson played Reuter in the 1941 classic film, *This Man Reuter*. The pigeons played themselves. 21

Finally, in 1837, Samuel Morse got it right: a nice, simple, single wire and ground design. 22

This quickly caught on all over the world. Instantaneous communication! 23

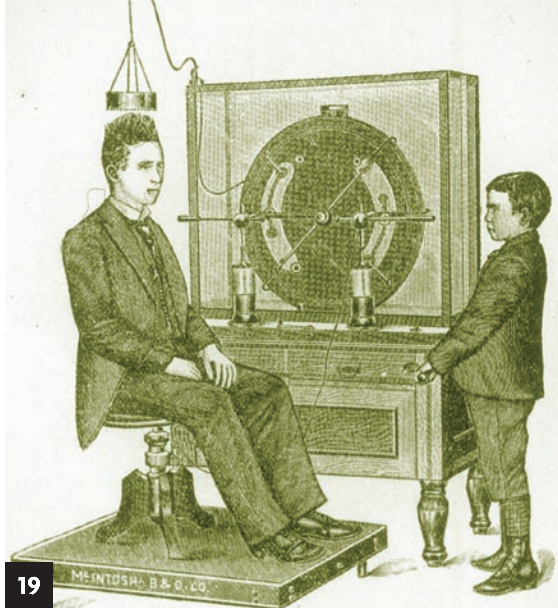
Notice here that "the electric fluid travels at the rate of 280,000 miles per second," or about one and a half times the speed of light. Maybe they knew something we don't.

For the first time in history, a message could be sent instantly over the horizon. An entire book could be filled with the stories of how all facets of human endeavor were transformed by telegraphy.[1]

Traders picked up on telegraphy in a big way. Here we see a broker in New York with his 19th-century BlackBerry, a telegraph key, cradled in his arm. 24

In its day, telegraphy was seen as the same kind of overwhelming transformation that the Internet is today. It was a big advance, but to participate in the market as things were happening, the participant had to know Morse code.

The technological revolution of the 1850s needed more technology to allow people to cope with the dramatic changes in the information landscape. This time



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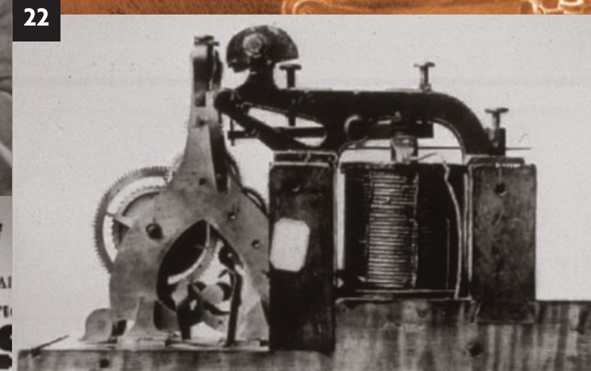


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"This Exhibition, which has so much excited Public attention of late, is well worthy a visit from all who love to see the wonders of science."—Morning Post.

The Electric Telegraph is unlimited in the nature and extent of its communications; by its extraordinary agency a person in London could converse with another at New York, or at any other place however distant, as easily and nearly as rapidly as if both parties were in the same room. Questions proposed by Visitors will be asked by means of this Apparatus, and answers thereto will instantaneously be returned by a person 20 Miles off, who will also, at their request, ring a bell or fire a cannon, in an incredibly short space of time, after the signal for his doing so has been given.

The Electric Fluid travels at the rate of 280,000 Miles per Second.

By its powerful agency Murderers have been apprehended, (as in the late case of Tawell,)—Thieves detected; and lastly, which is of no little importance, the timely assistance of Medical aid has been procured in cases which otherwise would have proved fatal.

The great national importance of this wonderful invention is so well known that any further allusion here to its merits would be superfluous.

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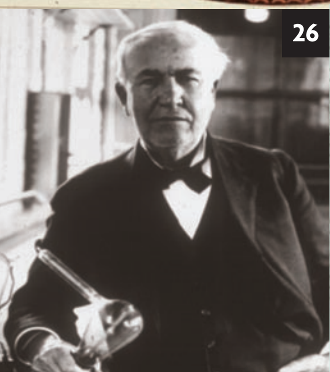
the technological advance was the invention of the stock ticker in 1867 by Edward Callahan. 25

The first models were a little too delicate for boisterous NYSE crowds, so Thomas Edison was hired to improve them to meet Wall Street combat standards. 26

Edison just kept dropping the ticker out of a second-floor window and fixing it when it broke until it didn't break anymore. Finally, he ended up with this design. 27

These can still be seen in museums, Wall Street offices and the occasional sidewalk sale. Ticker tape, like the roof, hand signals and the telegraph, was a huge success, probably the most important technology in finance up to that time. People even set up jumbo magnifying lens devices to project them onto walls.



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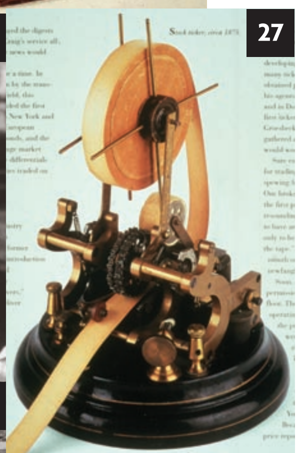

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People saved tapes and studied them — the first high-frequency market microstructure studies. Here's a fellow doing just that. 28

28

On the floor, there were "human Quotrons" who used to pick up the most recent end of tape and follow it back in time to find the latest price quotes for specific stocks. This wasn't that long ago. Frank Baxter, former chairman at Jefferies and a recent US ambassador to Uruguay, started out doing this.

All that ticker tape also made for nice parades. Here we see a group of specialists celebrating the one-millionth bagging of a buy-side trader. 29

29

Technological progress brought bigger, better and faster ticker machines. The ticker tape became the public symbol for the market. 30

30

Tickertape became *de rigueur* for blowout parades, like this one for General Douglas MacArthur after President Harry Truman fired him from commanding the US armed forces in Korea in 1951. 31

31

In one form or another, the ticker is still with us today—on the wall, or on the bottom of your TV screen. 32

32

On the floor of the NYSE, traders using all the information available to them did their trading at posts, where specialists made a market for all buyers and sellers. Understanding what happens at the posts is step one in understanding our ever higher frequency markets. The posts themselves have changed with the market. 33 34 35

Note that the limit order book, a central feature of electronic markets that trade in microseconds, is seen as an actual book in those slower, simpler days.

With the progress of technology, prodigious amounts of information can be moved quickly. But all of this information moving around in a hurry can get overwhelming. Telephones moved into exchanges alongside the ticker machines. This greatly expanded the capacity of the market to handle external order flow and connected the exchanges to the public network. Some eager adopters got carried away, as seen in the photo of a German trading room in the 1950s. 36

So far, this article has been about technologies for moving information around: hand signals, semaphores, telegraphy, stock tickers and telephones.

When it comes to using information, however, we're talking about computers. In the 1930s, if a person said he had six computers in his office, this is what he meant — the six women of the NYSE computing department circa 1925. 37


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"Computer" was a job, not a thing. If you said you had a supercomputer, this is what you meant. 38

At about this time, the technological legacy of Charles Babbage stirred again at the Moore School of Engineering in Philadelphia. ENIAC (electronic numerical integrator and calculator), the first electronic computer, was developed in 1946 by J. Presper Eckert and John Mauchly. 39

It weighed 30,000 pounds, had a 900-bit memory, ran at .017 MIPS (million instructions per second), and blew a tube every 45 minutes. It was programmed by someone moving plugs and wires around. Computers got a little better in the early 1950s (more memory and longer times between failures). But a battalion of nerds was still needed to get them to do anything useful twice in a row. 40

This modest-looking little science project is what unleashed the torrent of computation we see all around us today. 41

It's the very first transistor, developed at Bell Labs in 1948 by Walter Brattain, William Shockley and John Bardeen. They were awarded a Nobel Prize for it in 1956, around the time transistors started being manufactured in quantities large enough to show up in things like radios and, a few years later, computers.

Computers became much more manageable. One could fit in a room smaller than a barn, and it might work for a whole week without breaking down. It had enough memory that a programmer didn't have to move wires or think in binary to program it. The NYSE had to have one. In 1966, they got it. And there he is, the first nerd on Wall Street: Keith Funston, then president of the NYSE. 42

Computers continue to get better, faster, smaller and cheaper. They're everywhere in trading. Floor traders can interact directly with algorithms using the NYSE handheld. 43 » *continued on page 74*


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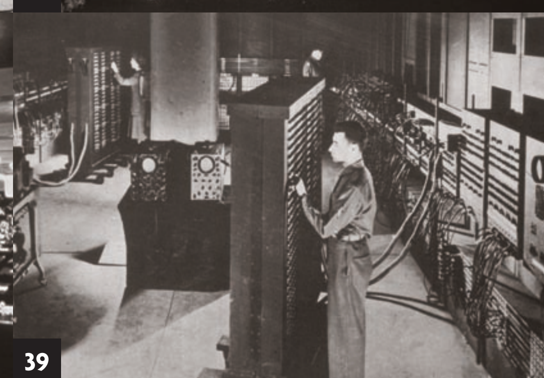
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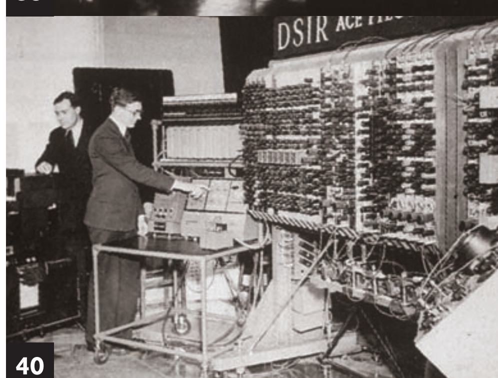

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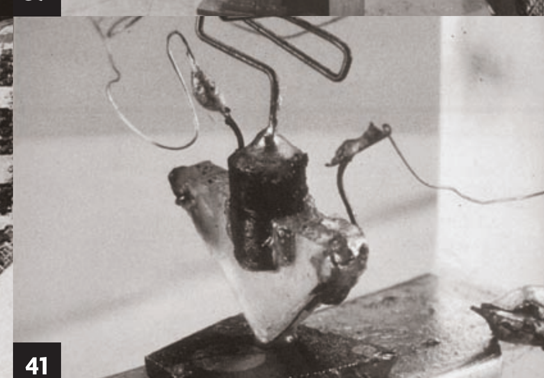
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THE MOST NOTABLE FIGURES

In 1940 few Americans had heard of mutual funds. Today they are Americans' favorite investment, having more than 90 million shareholders and over $12 trillion in assets. Funds' success is the result of the work of specific individuals, some of whom are described below.

Edward G. Leffler

The First Mutual Fund

Closed-end funds became popular during the bull market of the 1920s. A closed-end fund issues its shares to the public and uses the proceeds to acquire a portfolio of securities. Thereafter the fund's shares trade in the market at prices that can be greater or less than the value of the portfolio.

In 1924, Edward G. Leffler organized the first mutual fund, Massachusetts Investors Trust. MIT was unique in that its shares were redeemable — on any business day a shareholder could present shares to the fund and receive a price based on the *current* value of MIT's portfolio. Redeemability is the defining characteristic of mutual funds. MIT also continuously offered new shares to investors at prices based on *current* values. Thus MIT's shares, unlike shares of closed-end funds, did *not* trade at premiums or discounts.

While MIT and the other original mutual funds began in Boston and were associated with old Boston families, Leffler was a securities salesman of Swedish descent from Wisconsin. Leffler's experience selling securities made him dubious of individuals' abilities to select stocks. He studied British closed-end funds, "but found their structure not quite suitable." Leffler concluded that

> the solution lay in employing a full-time professional management, pool[ing] the funds of many investors so that proper diversification could be had, and costs kept within tolerable limits. *I also wished to introduce a provision that investors could present their shares and receive liquidating values at any time.* (Emphasis added.)

Thus, Leffler's experience, study and vision led him, along with a small brokerage firm, to create the first mutual fund.

Merrill Griswold

Equitable Tax Treatment

Merrill Griswold came from a New England family, attended Harvard College and Harvard Law School, and was a partner in the law firm Gaston, Snow. He became a trustee of MIT in 1925 and made many contributions to the fund industry.

For many years, federal tax law provided a 100% exclusion for dividends paid by one corporation to another corporation. Therefore, investment companies did not pay tax on dividends they received from corporations in which they invested. In 1935, President Roosevelt proposed elimination of the exclusion and Congress reduced it to 90%. Therefore, investment companies became subject to tax on a portion of the dividends they received, and fund shareholders bore a tax burden that was not imposed on them if they held securities directly. Investment companies feared they would be taxed out of existence.

In March 1936, President Roosevelt proposed a new tax scheme under which corporate rates would be increased, but there would be a deduction for dividends paid to shareholders. Corporate America and the financial community vehemently opposed the proposal for fear it would pressure corporations to distribute all their earnings.

Griswold saw the President's proposal as a "godsend" that could solve mutual funds' tax problem. He developed a theory under which a mutual fund is regarded as a conduit between fund shareholders and the securities in which the fund invests. The fund is ignored for tax purposes and fund shareholders are treated as though they own the securities directly. Griswold and other fund leaders met with administration officials, including President Roosevelt, to seek an exemption for mutual funds based on the conduit theory. The result was the Revenue Act of 1936, which provided that if a mutual fund met a number of tests, the fund would be ignored for tax purposes and fund shareholders would be taxed on dividends they receive, thus putting them on a par with direct investors in securities.

The Revenue Act of 1936, the result of Griswold's work, was the most important event in fund history: it gave funds and fund shareholders equitable tax treatment; it was the first time the federal government regulated funds; and it paved the way for enactment of the Investment Company Act of 1940.

David Schenker

Sound Regulation

Investment companies, particularly closed-end funds, were popular in the late 1920s. While most were run well, some engaged in questionable activities. In 1935, Congress ordered the Securities and Exchange Commission (SEC) to study investment companies and make recommendations. In 1939, the SEC recommended stringent legislation, the Investment Company Act.

The driving force for legislation was the chief counsel of the SEC study, David Schenker. He attended Columbia College and Columbia Law School, served on the staff of the Senate Banking Committee and joined the SEC at the agency's inception. Schenker and his SEC colleagues faced a difficult task in obtaining enactment of legislation: the New Deal had run out of steam, the SEC was under attack and the nation was focused on war in Europe and American defense preparedness. The press was unanimous in predicting that the Investment Company Act would not be enacted.

The SEC held one important card: closed-end funds, the dominant segment of the industry, were desperate to obtain the same tax relief that mutual funds received in 1936; perhaps a deal could be struck whereby closed-end funds would support the Investment Company Act and in return the SEC would support legislation giving closed-end funds tax relief. To accomplish this, Schenker had to negotiate with representatives of the

IN FUND HISTORY

By Matthew P. Fink

"There is no inevitability in history except as men make it."
—Felix Frankfurter

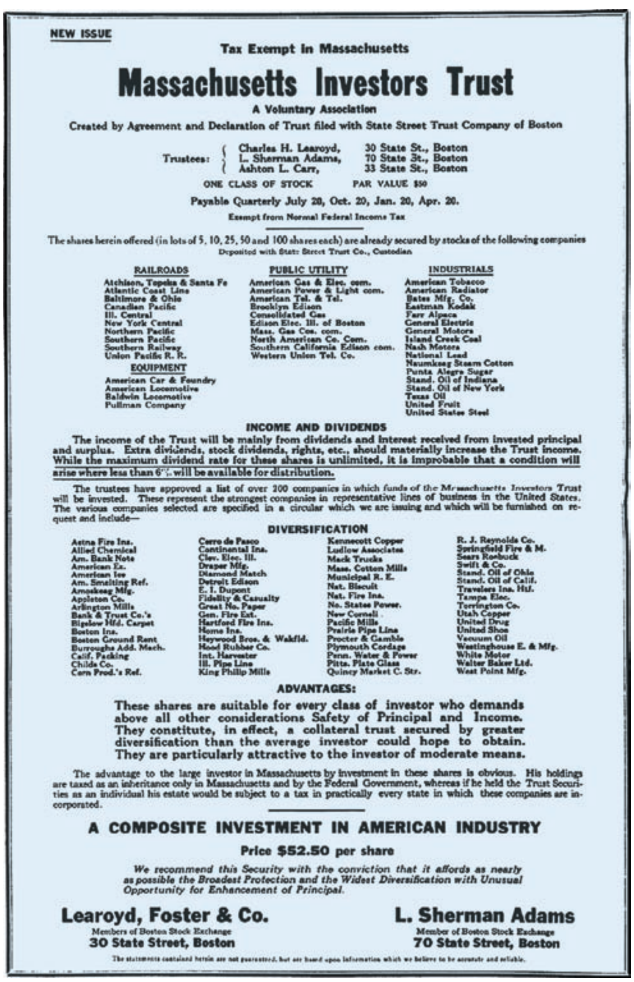
investment company industry, deleting or modifying provisions that went too far (such as the proposed $150 million limit on the size of a mutual fund) while maintaining essential safeguards (such as strict limits on leverage). The result of the cooperative effort between Schenker and industry representatives was the Investment Company Act of 1940, which by imposing strict fiduciary standards while permitting innovation, has been a cornerstone of funds' success.

Harry Brown, Bruce Bent, James Benham, John F. Donahue and David Silver

Money Market Funds

The late 1960s ushered in high inflation. Institutions and wealthy individuals could earn market rates of return by purchasing Treasury bills in amounts of $10,000 or higher and bank certificates of deposit in excess of $100,000. Most Americans were limited to earning low returns on bank and savings and loan passbook accounts, whose rates were limited by federal law.

In 1972 in New York, two former employees of TIAA-CREF, Harry Brown and Bruce Bent, created The Reserve Fund, which invested in Treasury bills, large CDs and other short-term instruments and paid the interest less expenses to shareholders. A few weeks later across the country in San Jose, California, a former Merrill Lynch broker, James Benham, started the Capital Preservation Fund. The success of these



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Fidelity & Casualty
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Hartford Fire Ins.
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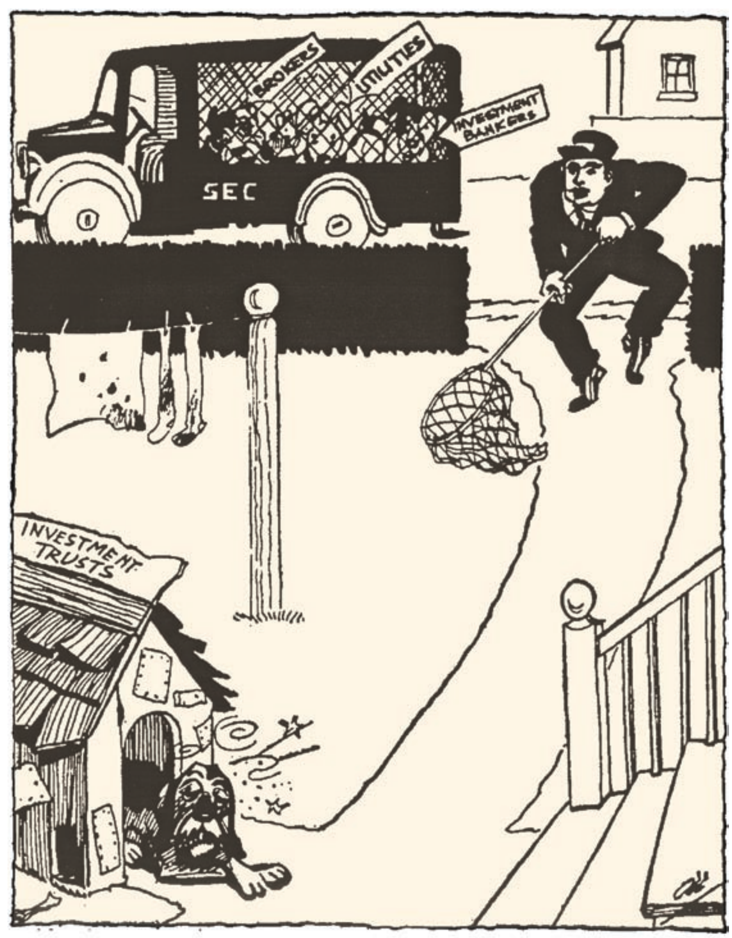
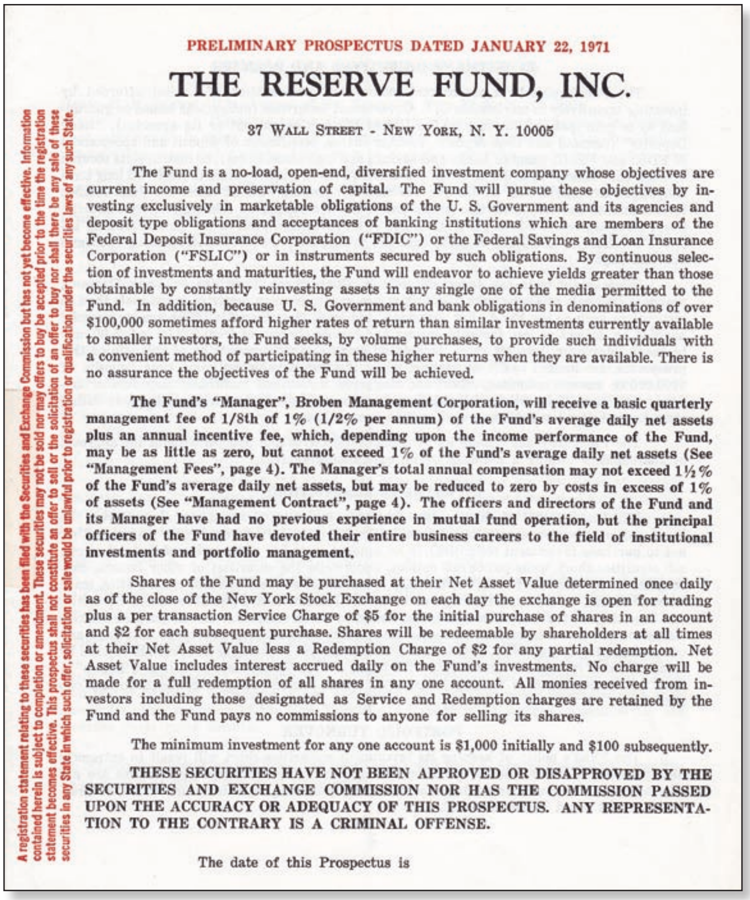
The Massachusetts Investors Trust 1924 offering circular.



From the Doghouse Into the Pound?

Courtesy of Dow Jones & Company.

Barron's March 18, 1940 cartoon.


PRELIMINARY PROSPECTUS DATED JANUARY 22, 1971

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A registration statement relating to these securities has been filed with the Securities and Exchange Commission but has not yet become effective. Information contained herein is subject to completion or amendment. These securities may not be sold nor may offers to buy be accepted prior to the time the registration statement becomes effective. This prospectus shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any State in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such State.

The Fund is a no-load, open-end, diversified investment company whose objectives are current income and preservation of capital. The Fund will pursue these objectives by investing exclusively in marketable obligations of the U. S. Government and its agencies and deposit type obligations and acceptances of banking institutions which are members of the Federal Deposit Insurance Corporation ("FDIC") or the Federal Savings and Loan Insurance Corporation ("FSLIC") or in instruments secured by such obligations. By continuous selection of investments and maturities, the Fund will endeavor to achieve yields greater than those obtainable by constantly reinvesting assets in any single one of the media permitted to the Fund. In addition, because U. S. Government and bank obligations in denominations of over $100,000 sometimes afford higher rates of return than similar investments currently available to smaller investors, the Fund seeks, by volume purchases, to provide such individuals with a convenient method of participating in these higher returns when they are available. There is no assurance the objectives of the Fund will be achieved.

The Fund's "Manager", Broben Management Corporation, will receive a basic quarterly management fee of 1/8th of 1% (1/2% per annum) of the Fund's average daily net assets plus an annual incentive fee, which, depending upon the income performance of the Fund, may be as little as zero, but cannot exceed 1% of the Fund's average daily net assets (See "Management Fees", page 4). The Manager's total annual compensation may not exceed 1½% of the Fund's average daily net assets, but may be reduced to zero by costs in excess of 1% of assets (See "Management Contract", page 4). The officers and directors of the Fund and its Manager have had no previous experience in mutual fund operation, but the principal officers of the Fund have devoted their entire business careers to the field of institutional investments and portfolio management.

Shares of the Fund may be purchased at their Net Asset Value determined once daily as of the close of the New York Stock Exchange on each day the exchange is open for trading plus a per transaction Service Charge of $5 for the initial purchase of shares in an account and $2 for each subsequent purchase. Shares will be redeemable by shareholders at all times at their Net Asset Value less a Redemption Charge of $2 for any partial redemption. Net Asset Value includes interest accrued daily on the Fund's investments. No charge will be made for a full redemption of all shares in any one account. All monies received from investors including those designated as Service and Redemption charges are retained by the Fund and the Fund pays no commissions to anyone for selling its shares.

The minimum investment for any one account is $1,000 initially and $100 subsequently.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION NOR HAS THE COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is

Museum of American Finance.

Courtesy of the Investment Company Institute.

(Left) Red herring prospectus from The Reserve Fund, the first money market mutual fund, 1971; *(Right)* Tennessee advertisement

first two money funds caused traditional fund firms to sponsor similar funds.

Jack Donahue attended West Point, was a pilot in the Army Air Corps, and sold mutual funds. In 1955, he and a colleague founded a fund firm, Federated Investors, in Pittsburgh. When money market funds developed, many investors wanted to invest in funds with fixed share prices. Money funds utilized various accounting techniques to maintain a price of one dollar per share. In 1977, the SEC issued a release limiting use of these techniques. Federated sought an exemption from the SEC, which was initially opposed by the SEC staff, permitting it to maintain a fixed one dollar price. The SEC granted the exemption, and other funds obtained similar exemptions, which have been codified into an SEC rule. A fixed one dollar share price is the hallmark of money funds.

Money funds posed a severe competitive threat to banks and S&Ls, which launched legislation in more than 20 states to outlaw money funds. Money funds faced an extremely difficult situation. Banks and S&Ls had offices in every town and lobbyists in every capital; mutual funds were located in few states and had little political clout.

David Silver attended Harvard Law School, worked at the SEC, and joined the mutual fund association, the Investment Company Institute, in 1966, becoming president in 1977. Silver developed a strategy to defeat the state legislation by having the fund industry reach fund shareholders through newspaper ads and radio spots urging them to ask state legislators to oppose the bills. This effort, the Institute's "finest hour," led to defeat of anti-money fund legislation in *every* state where it was introduced.

Money funds were the most important innovation in fund history. They provided average investors with market rates of return, led to the removal of interest rate controls on bank and S&L deposits, and introduced millions of Americans to investing through mutual funds.

John C. Bogle

Low Cost Investing and Index Funds

Jack Bogle wrote his thesis at Princeton on mutual funds and joined a Philadelphia fund company, Wellington Management, in 1951. He later helped engineer a merger with a Boston firm. There was a falling out between Bogle and the Boston partners, who gave him the option of resigning or assuming an administrative role. He retaliated by urging the fund directors to have the funds acquire Wellington. The Boston partners saw Bogle's suggestion as a way for him to salvage his job; Bogle countered that he had raised mutualization years before. Whatever Bogle's motivation, his work led the funds to form and own a new company, Vanguard, that managed the funds. This internalization of fund management helped make the Vanguard funds the low cost providers in the fund industry.

In the early 1970s, several money managers operated pension and trust accounts that invested in the market as a whole, rather than in securities selected by the managers. A number of writers urged the creation of mutual funds that would invest this way. In 1976, Vanguard, led by Jack Bogle, created the first indexed mutual fund. Index funds now comprise a major component of the stock and bond fund universe, with assets of almost $1 trillion.

Low costs and index funds have helped make Vanguard the nation's largest mutual fund family.

Robert L. Augenblick

Tax-Exempt Funds

For many years, people in the fund industry and in state and local governments expressed a desire to have funds invest in tax-exempt bonds and pass the tax-free interest on to fund shareholders. However, tax law treated all dividends paid by funds as taxable. Moreover, many important members of Congress questioned the wisdom of the underlying tax exemption and did not want it extended to fund shareholders. Finally, interest rates tended to be low, so that it was not practical to operate tax-exempt funds. When interest rates climbed in the late 1960s and 1970s, the proposition became viable.

Bob Augenblick had attended Harvard Law School, served in the Office of Strategic Services during World War II, and practiced law in New York City. He joined the Investment Company Institute in 1962 as general counsel, and became its president. In 1976, he made enactment of tax-exempt fund legislation his final goal before his upcoming retirement. He assembled a team consisting of himself; Ed Cohen, the Institute's long-time outside tax counsel; Ramsay Potts, the Institute's outside legislative counsel; and Donald Petrie, an attorney and investment banker retained by the Dreyfus fund group. Despite the opposition of the chairman of the House Ways and Means Committee, Bob and his team succeeded in having Congress enact legislation permitting the creation of tax-exempt mutual funds. Today, these funds have assets of over $800 billion.

Congressman Eugene J. Keogh and Senator Jacob K. Javits

Retirement Plan Investment in Mutual Funds

Today, mutual funds are major players in the retirement plan market, accounting for one-quarter of total plan assets. The close association between funds and retirement plans is relatively new. For many years, the retirement market was dominated by defined benefit (DB) plans, where employers promise fixed benefits. DB plans did not invest in funds. The smaller universe of defined contribution plans (where employees make investment decisions and bear the risk) were managed by banks and insurance companies, who generally did not utilize funds.

The revolution in retirement plans began in 1962 due to the work of Congressman Eugene Keogh, a Democrat from New York. Before that time, only employees could be covered by plans; self-employed individuals could not obtain pension coverage. Keogh led a decade-long effort, opposed by the Treasury Department in both Democratic and Republican administrations, to permit the self-employed to have plans. Keogh succeeded in 1962 when the law was changed to permit creation of self-employed retirement plans. Funds soon became the leading investment vehicle for Keogh plans.

Funds' experience with Keogh plans (marketing plans to employers, administering small accounts, meshing pension and securities laws) laid the groundwork for funds' future success in other retirement markets. Moreover, the Keogh debate changed the way policymakers view retirement plans. Historically, plans were seen as a way to manage the workforce, for example, as a way to induce older workers to retire. Keogh argued that the tax code subsidized retirement savings for employees, but denied a similar tax subsidy to the self-employed. Keogh's victory led policymakers to decide to enact a series of laws providing additional tax subsidies for retirement savings. Mutual funds benefitted from this massive wave of investment dollars.

In 1974, Congress enacted the Employee Retirement Income Security Act of 1974, whose main purpose was to reform defined benefit plans. The driving force behind ERISA was Senator Jacob K. Javits, the top Republican on the Senate Labor Committee, who developed support for reform by exposing abuses in DB plans. ERISA addressed these abuses by requiring DB plans to meet requirements regarding funding, vesting and plan termination insurance.

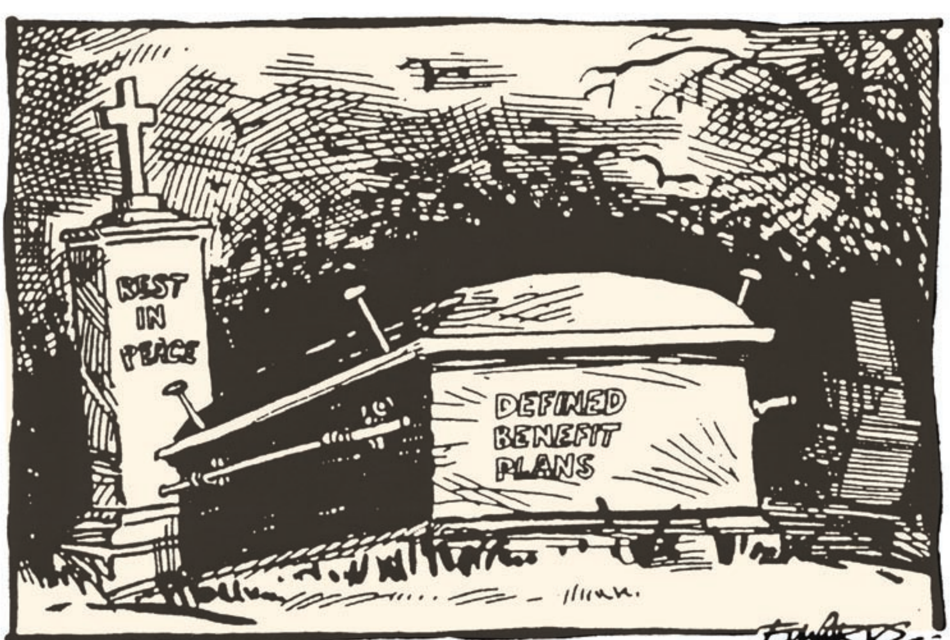
Ironically, the burdens that ERISA imposed on DB plans led many employers to replace DB plans with 401(k) and other defined contribution (DC) plans. Mutual funds' experience with Keogh plans, the bull market of 1982-2000 and fund technological innovation caused mutual funds to benefit from the huge shift from DB to DC plans.

Funds are now the largest funding vehicle for 401(k) and other DC plans.

Edward C. Johnson, III

Constant Innovation

Edward C. Johnson, II, an attorney from a well-established Boston family, founded a fund management company, Fidelity, in 1946. In 1957, his son, Edward C. Johnson, III ("Ned"), a graduate of Harvard College, joined the firm as a research analyst, went on to manage Fidelity Trend Fund and Fidelity Magellan Fund, and eventually became the firm's chairman and CEO. » *continued on page 72*



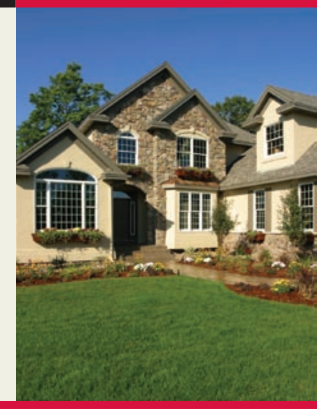
Courtesy of Dow Jones & Company.

Barron's June 22, 1992 cartoon.

REAL ESTATE

THE BUBBLE, THE BUST AND BEYOND

By Kenneth G. Winans



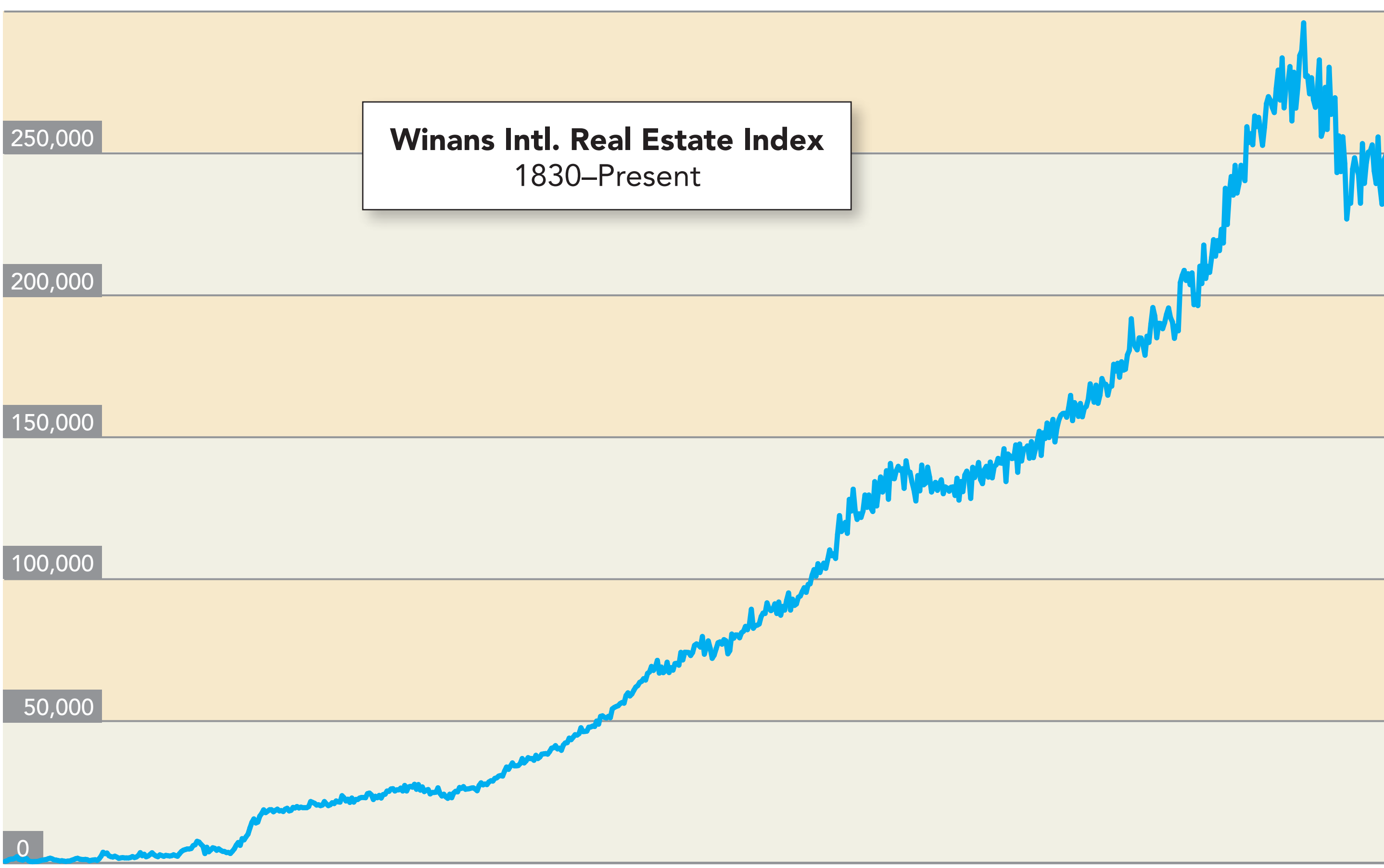
"Real estate is a form of investment which ordinarily does not become worthless in periods of drastic financial readjustments... One thing about real estate, however, is that it is not always readily saleable on short notice."

—*Investment Fundamentals*
Babson, 1930

WITH A DECLINE OF 24% in US home prices since its record high in March 2007, this year marks the longest real estate bear market since the beginning of World War II.

There is much public debate about when housing's problems will end and a new bull market will begin. In fact, *Fortune* magazine's recent cover article is titled, "The Return of Real Estate." On the very same day, Treasury Secretary Timothy Geithner told Congress, "It will take years for the housing market to come back."

So, who is right? Financial history can provide us with some important insight into the longstanding pros and cons of real estate investing and clues to its future as a popular investment choice.



Mega Bull Markets—When Homes Became Investments

> "You're seeing people now for whom investing in real estate is their life. It's a move taken straight from the old day traders of the stock market."
>
> —*Fortune* magazine, June 6, 2005

With shelter being of primal concern to all people, real estate is one of mankind's oldest types of assets and has been one of the most effective ways to amass wealth and power in all civilizations (past and present). Homeownership has always been an important part of the "American Dream" and continues to be the largest asset owned, as well as the reason for much of the high debt burden held by most investors.

There have been five mega bull markets in housing that have exceeded five years in duration since 1850. Their average annual return was 120% higher than normal yearly appreciation (11% versus 5%). The 19-year run of the 1971–90 market marks the longest advance in housing prices. After a brief market correction, the second longest housing advance began, the 15-year run from 1992 to 2006.

While most parts of the US enjoyed these housing booms, the western states had the best overall appreciation over the last 33 years, followed closely by the northeastern states.

The steadiest performance came from the southern region (annual declines occurred only 3% of the time). This is especially astounding when you consider the substantial number of major hurricanes and tornado storms that caused tremendous damage in this region.

© Chris Rank/Corbis

A house up for foreclosure in Atlanta, Georgia, during the mortgage crisis of 2008.

Housing Bear Markets—Long and Painful

Although the 24% decline in US housing prices over the last five years is widely believed to be the worst on record, there have been six severe housing bear markets that have exceeded three years in duration since 1850. Their average total decline was 50%, and it took 12 years on average for prices to return to the previous bull market high. While the six-year decline during World War II marked the longest continuous decline over the last 160 years, the four-year decline during the Great Depression was far worse with a total decline of 58% from 1929 to 1932. This led to the federal government's creation of mortgage giants Fannie Mae and Freddie Mac to help stabilize the housing market.

> "I heard countless times that what matters most in real estate is location, location, location. I don't dispute the validity of this mantra, but location in and of itself cannot protect an investor buying at the top of a cycle and taking a loss on the way down."
>
> —*Timing the Real Estate Market* Hall, 2004

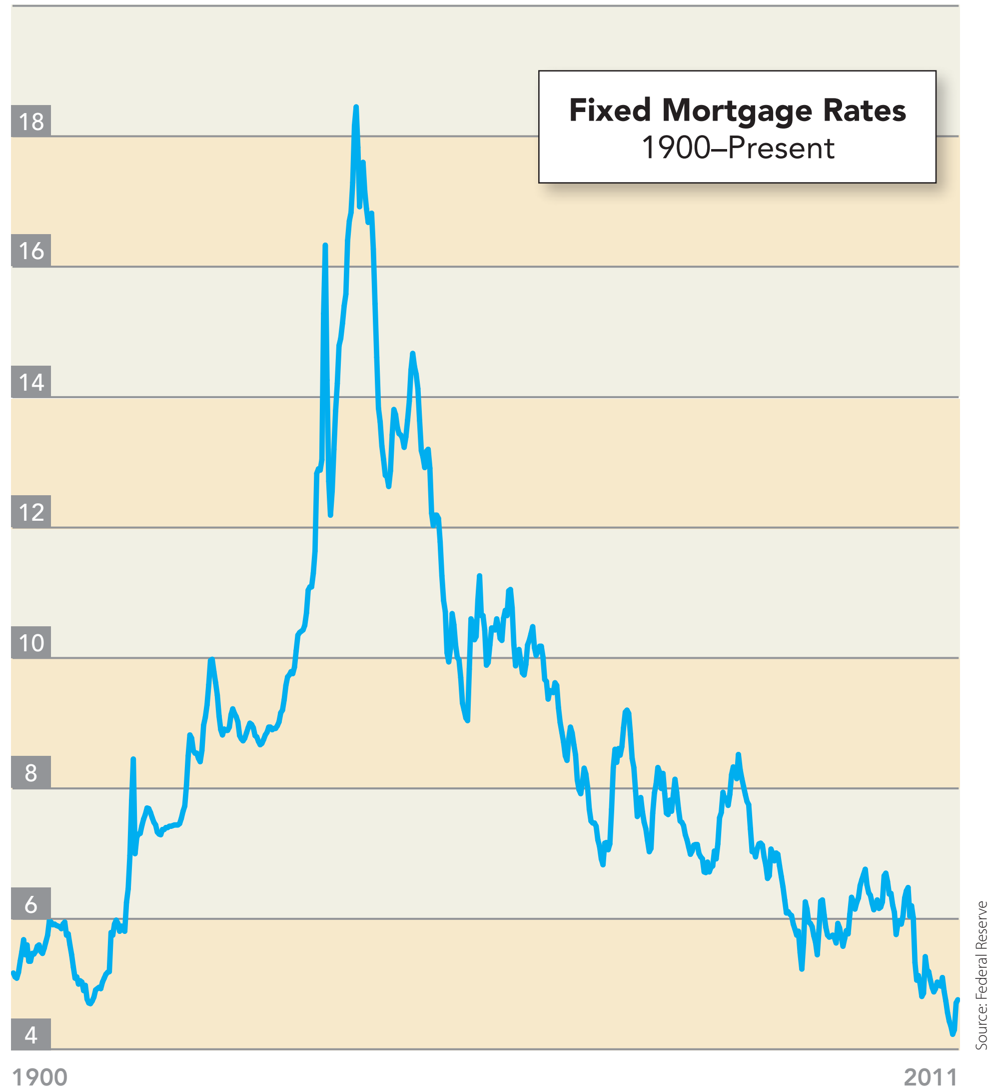
The Double-Edged Sword of High Leverage and Illiquidity

"Speculators in real estate often borrowed from the United States Bank for speculative purposes, sums as high as $250,000."

—*Bull and Bear of New York*
Smith, 1875

Since real estate bull markets can last for decades and be experienced by many generations of investors, it is somewhat easy to understand how today's knowledgeable and technologically advanced investors bought overpriced properties with "nothing down" and indebted themselves at lethal levels with risky adjustable rate mortgages during the recent bull market. As with other past bubbles, the myth that real estate can't lose value became a reality for rich and poor alike, who ignored how rising interest rates sent real estate into a nosedive in the late 1960s and early 1980s.

History reminds us that illiquidity has always been the Achilles Heel of housing and makes an exit in the beginning of a bear market problematic. Even today, real estate is a throwback to the Buttonwood Tree era with transactions done at a slow pace through networks of brokers centered on MLS publications and websites that post property listings for sale. In this decentralized, cumbersome and expensive transaction structure, a typical transaction can take months to complete. As in previous real estate bear markets, this one is marked with over-leveraged properties that are difficult to sell, and extensive government action is being used to block foreclosures and influence mortgage rates.



*Yearly 1900–1970, monthly after

"Sausalito, CA is a place of half a dozen houses, once 'destined' to be a great town; $150,000 lost there—city laid out, corner lots sold at enormous prices, 'water fronts' still higher—a big city was bound to grow up there. The old California story—everybody bought land to rise in value, but no one built, no city grew there. Corner lots and waterfronts are alike worthless."

—Journal of William Brewster, 1862

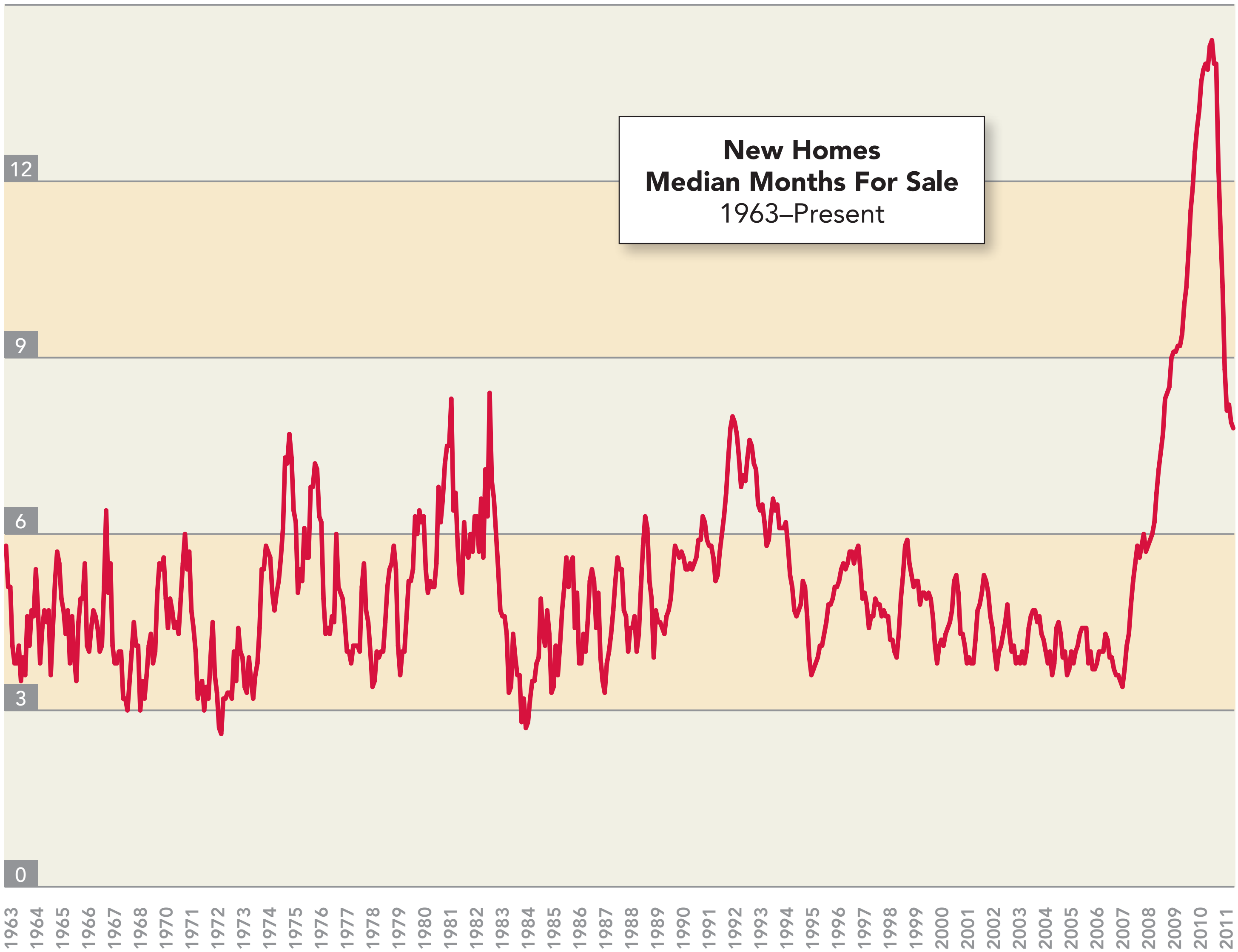
REITs—Wall Street's Greatest Real Estate Invention

With the nation's focus on US housing prices' continued decline and how Wall Street's securitized mortgage "creations" nearly destroyed the world financial system, real estate investment trusts have quietly made up most of the ground they lost with a 70% advance since 2008 and outpacing the S&P 500 Index's 50% gain.

This raises a long-running debate: Which is the best way for investors to own real estate—direct ownership in investment properties or liquid, exchange-traded investments that focus on real estate?

Diehard real estate investors believe owning "brick and mortar" is the best way to play the real estate game, and the time dealing with the problems surrounding the "four Ts" of investment property ownership (tenants, taxes, toilets and termites) is the price paid for success.

Clearly, today's investors have another route to successful real estate investing through real estate investment trusts (REITs) that actively invest in residential,



commercial and industrial real estate around the globe.

Both types of real estate investments produced impressive returns from 1974 through 2007 (REITs rose 580% and non-leveraged US homes advanced 531%). Since then, REITs are the clear winner; investors can also use REIT preferred shares for income generation with average dividend yields of 7%.

In fact, the Morgan Stanley REIT Index has recovered all its losses from the 2008 financial hurricane, and US housing prices have declined 19% and are near bear market lows.

The bottom line is that direct ownership can use higher levels of leverage (margin on stocks is limited to 50% of value), but REITs are more liquid during volatile real estate conditions, cheaper to buy and sell and perform better during housing bear markets.

When Will Housing Turn the Corner?

Successful investing is as much about identifying the overall trends (i.e., when to buy or sell) as it is selecting individual investments (i.e., what to buy to sell). While many people think low mortgage rates alone will cause a housing rebound, there are other indicators to watch, such as home prices, new home sales and months for sale.

The Winans International Real Estate Index (WIREI)™ is the only index that measures US home » *continued on page 73*

> "Until the REIT-IPO boom of 1993–1994, very few public REIT's had the capability of developing new properties from the ground up."
>
> **—Investing in REITS Block, 2006**

Money as Industrial Waste

The Business of Recycling Greenbacks at the Bureau of Engraving and Printing

By Dr. Franklin Noll

Historical Resource Center, BEP

(Top) Macerator in the Treasury building, 1910.
(Bottom) Macerating room in the Treasury building, 1895.

From its early days, the Bureau of Engraving and Printing (BEP) was conscious of the environmental impact and waste resulting from its operations, especially when it came to dealing with scrap currency paper and notes redeemed by the Treasury. As a result, the BEP continually tried to minimize waste by reducing scrap, reusing old notes and recycling paper by turning it into pulp. However, in the many years before the first Earth Day, the BEP's efforts were not so much seen as working to save the planet as they were working to save money and to be a good neighbor in Washington, DC.

When the BEP first began operations in the Treasury building in the 1860s, the Treasury was in charge of dealing with currency paper waste disposal. It did so by burning mutilated and imperfect bills along with scrap paper and redeemed currency. This was done in a small outbuilding near the present-day Ellipse that housed an incinerator. During burning, the smoke was forced through a water filter to prevent any partially burned notes from going up and out of the chimney.[1] Despite this precaution, it was not unusual for charred pieces of notes to drift over the surrounding neighborhood in a haze of thick smoke.[2] After the burning operation, the ashes, described as metallic in nature, were removed from the furnace and piled around the building.[3] Fortune hunters would search these piles for note fragments that they would piece together and attempt to redeem from the Treasury.

Not surprisingly, the Treasury and the BEP found this method of dealing with waste paper less than satisfactory. However, they were bound by law to destroy any security paper by burning. It was not until June 1874 that Congress passed a law allowing the Treasury to use other means to take care of the problem, specifically the maceration of paper into a pulp. Later that year, a macerator was installed in the basement of the Treasury building.

One account described the macerator as being 12 feet in diameter and fitted with over 100 stationary and rotating knives.[4] Later macerators were said to consist of one or two cylinders, each measuring six feet tall and four feet in diameter and installed beneath the floor of the macerating room.[5] In either case, the macerating process was the same. The money was dumped in through a hatch atop the macerator, which was about half full of a mixture of water, soda ash and lime.

Library of Congress

BEP macerating room, 1912.

These chemicals were designed to destroy the fibers in the paper and break down the colors in the ink. Once activated, the knives in the macerator would cut and shred the paper into small pieces.[6] The machine would be run for several hours, but only overnight because the vibrations from the machine shook the building.[7] The output was a liquid, grayish pulp. On average, the macerator produced 17,500 pounds of pulp a day.[8]

The BEP did not have its own macerator until it moved from the Treasury building in 1880 to its new home at the corner of 14th Street and Independence Avenue. At that point, both the BEP and the Treasury were operating macerators. The BEP handled scrap from production while the Treasury destroyed redeemed currency. It is unknown what was first done with the resulting pulp from both macerators; but, by 1886, the BEP was drying and processing the pulp into bales or "blankets" of pulp, which were then sold.[9] Records for that year report that the BEP produced 100,000 pounds of dried pulp, selling 94,395 pounds of it.[10]

Dried pulp was sold to private companies that used it in various ways. Much of it was used by paper companies for such items as bookbinder's board and other applications where the color and texture of the paper were unimportant. The pulp was also used to make money pulp souvenirs such as postcards, plaques and "paper maché" novelties such as the Washington Monument, the Capitol building, George Washington, Abraham Lincoln, shoes, hats, animals and paperweights.[11]

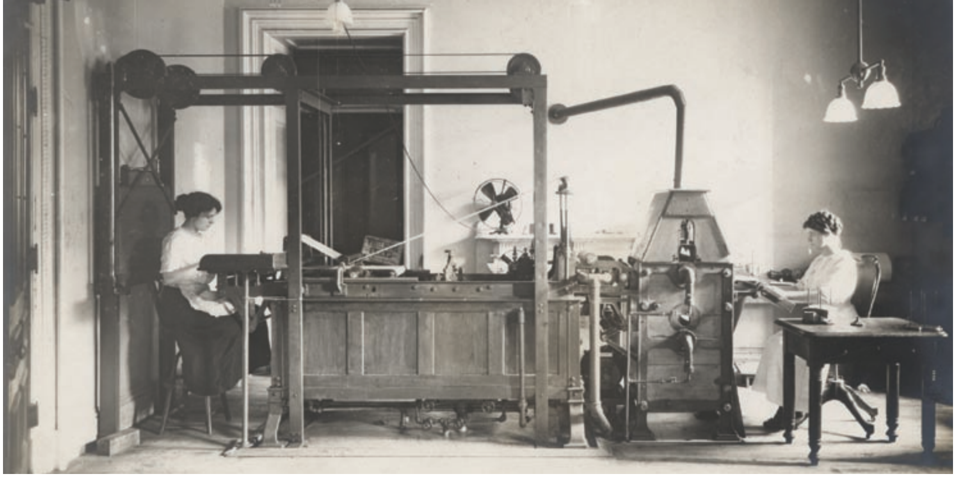
In the 1880s and 1890s, sales of dry pulp by the BEP gradually increased, reaching 207,131 pounds of pulp in 1900, more than double that sold in 1886. In 1904, the macerator in the Treasury was dedicated to the destruction of only national bank notes and the one in the BEP began to be used for everything else. This move was made largely because the BEP was now bleaching its pulp, removing any last trace of the destroyed notes.[12] One result of the increased use of its macerator was that the BEP started producing and selling an additional 100,000 pounds of pulp every year. In 1907, the BEP sold 448,000 pounds of dry pulp.

While the sale of pulp brought some money into the BEP ($9,967.99 in 1907), it made better economic and environmental sense to reduce the amount of paper going into the macerators. More money would be saved if fewer notes were produced, resulting in less scrap. This seemed impossible in the late 1800s and early 1900s. Part of the problem was that the Treasury did not reissue currency at this time. Any notes returned to the Treasury had to be destroyed and replaced with new notes. This fact, combined with a turn-of-the-century craze among shopkeepers and the public for "new" money, led to excessive production and consequent waste.[13]

Studies of the time revealed that at least 30% of the notes returned by banks throughout the country were not actually worn but simply soiled, and only needed cleaning to be reused.[14] In response, the BEP undertook an investigation in 1909 of the feasibility of cleaning soiled currency for possible reissue as new notes. It developed various prototype machines to wash, size and iron notes. However, to make the cleaning of notes practical, an all-in-one machine needed to be developed. When commercial companies proved reluctant to do this, BEP engineers developed their

Library of Congress

Producing dried pulp "blankets," 1912.



Historical Resource Center, BEP

Currency laundering machine, 1912.

own model. A perfected machine capable of laundering 30,000 to 40,000 notes a day was put in service in 1912. Additional machines were built and sent to Treasury offices around the country.[15]

Once laundering machines were installed, there was a significant drop in note production as more redeemed notes were put back into circulation and not replaced with new notes. The resulting decline in currency production waste and in redeemed currency destroyed also meant a reduction in paper going to the macerator and pulp production.

Unfortunately, the laundering of soiled notes only continued for a few years, ending in 1918. Supply shortages caused by World War I forced the use of high-cotton paper in currency production. This paper did not stand up well to washing, and the practice was ended. Laundering was not revived by the Treasury after the war despite the return to all-linen currency paper because of growing concerns that the washed currency was easily counterfeited.[16] Consequently, pulp production (now in liquid form rather than in dry, blanket form) jumped markedly after 1918 and stayed at high levels for years to come.[17]

Currency incinerator, 1970.

Historical Resource Center, BEP

Unable to reduce waste by laundering and reusing currency, the BEP looked for other ways to cut down on the amount of paper going into the macerator. In fiscal year 1927, BEP examiners introduced the practice of "partlying." Before this time, a defective note on a sheet of currency led to the whole sheet being removed from production and destroyed. To reduce spoilage, the Examining Division began marking individual defective faces and backs with either a pencil mark or a cancellation hole punched through the note. Workers dubbed this process as partlying. These individual notes would be removed and destroyed, saving the other notes on the sheet. Partlying reduced spoilage by about 75%, leading to a decrease in waste and pulp production.[18]

Beginning in 1919, the Engineering and Machine Division handled maceration and pulp production. Over the next 10 years, the division would produce, on average, 5.8 million pounds of wet pulp per year with an annual income of around $35,000. A 1929 study showed that de-inking pulp by washing and boiling it would increase its market value.Two years later the BEP adopted the new de-inking process in the production of pulp. New equipment was ordered and installed. The cost of pulp production was less than the previous method and would result in a higher quality pulp for sale.[19]

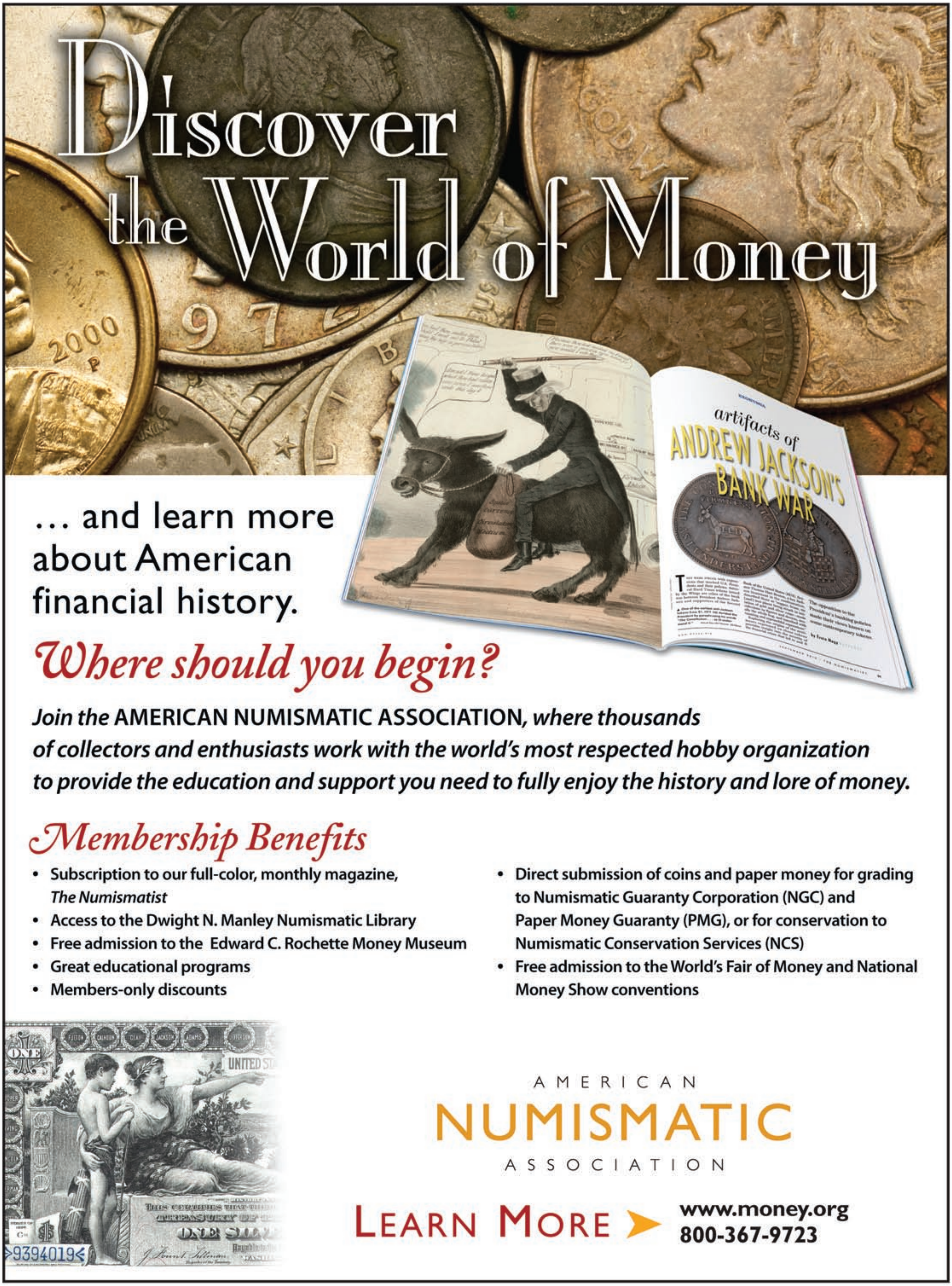
However, the market for pulp was weakening as the effects of the Great Depression spread throughout the country. By the end of 1931, prices paid for pulp did not cover the cost of preparing it for shipment. Some pulp was sold in the early 1930s, but most had to be hauled to the dump.[20] By 1934, the market for pulp had collapsed. Prices fell to $2.50 per ton when anyone would buy. The BEP had no recourse but to discard almost all of the pulp it produced.[21] In 1935, 2,341,117 pounds of dry paper was macerated but only 490,950 of wet pulp could be sold. The next year, there was no market for pulp, and it was all dumped — 864 truck loads. In 1937, Schapiro and Sons were the only purchasers of pulp at $.42 a ton. There were no bids for pulp in 1938, and it was all thrown away.[22]

Over the next decade, the BEP explored various ways to deal with its waste paper from currency and security production. In 1940, while cancelled notes and securities were still macerated, distinctive paper trimmings were now taken to the District of Columbia incinerator for disposal, reducing the amount of paper going to the macerator by 490,000 pounds.[23] This practice was continued the next year as there was still no market for the BEP's pulp. Finally, in January 1943, maceration was abandoned and the BEP started burning currency paper.[24] The BEP remodeled its own incinerators to take on the job.[25]

No one at the BEP was happy with this turn of events. Burning resulted in the waste of valuable paper and the problem of smoke in downtown Washington, DC. As an alternative, in 1945, the BEP experimented with shredding and returning the shreds to Crane paper. However, the shredding equipment of the time only made it possible to securely shred paper trimmings and not redeemed and mutilated currency, so burning of these items continued.[26]

Burning was carried on until the 1970s when, as had happened 100 years earlier, there arose concerns over pollution. This time the answer was not maceration and the creation of pulp, but shredding, creating shredded currency residue. The new equipment used by the BEP and the Federal Reserve Banks allowed for the creation of shreds that could not be misused or reassembled into notes. Shreds began to be sold in bulk with companies experimenting in their use in products as diverse as roofing tiles and fuel pellets.[27] Many people are most familiar with the use of shreds in the production of souvenirs, just like the paper pulp of the late 1800s.

Looking at the first 100 years of the BEP's handling of currency paper, it is evident that the BEP basically followed the now popular maxim, "Reduce, Reuse, Recycle." The BEP has always sought to reduce the amount of currency paper wasted by minimizing spoilage in » *continued on page 73*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THE FIRST Activist Congress

By Michael A. Martorelli

Abraham Lincoln by William F. Cogswel, 1869. Located in the White House, Washington, DC.

© Corbis

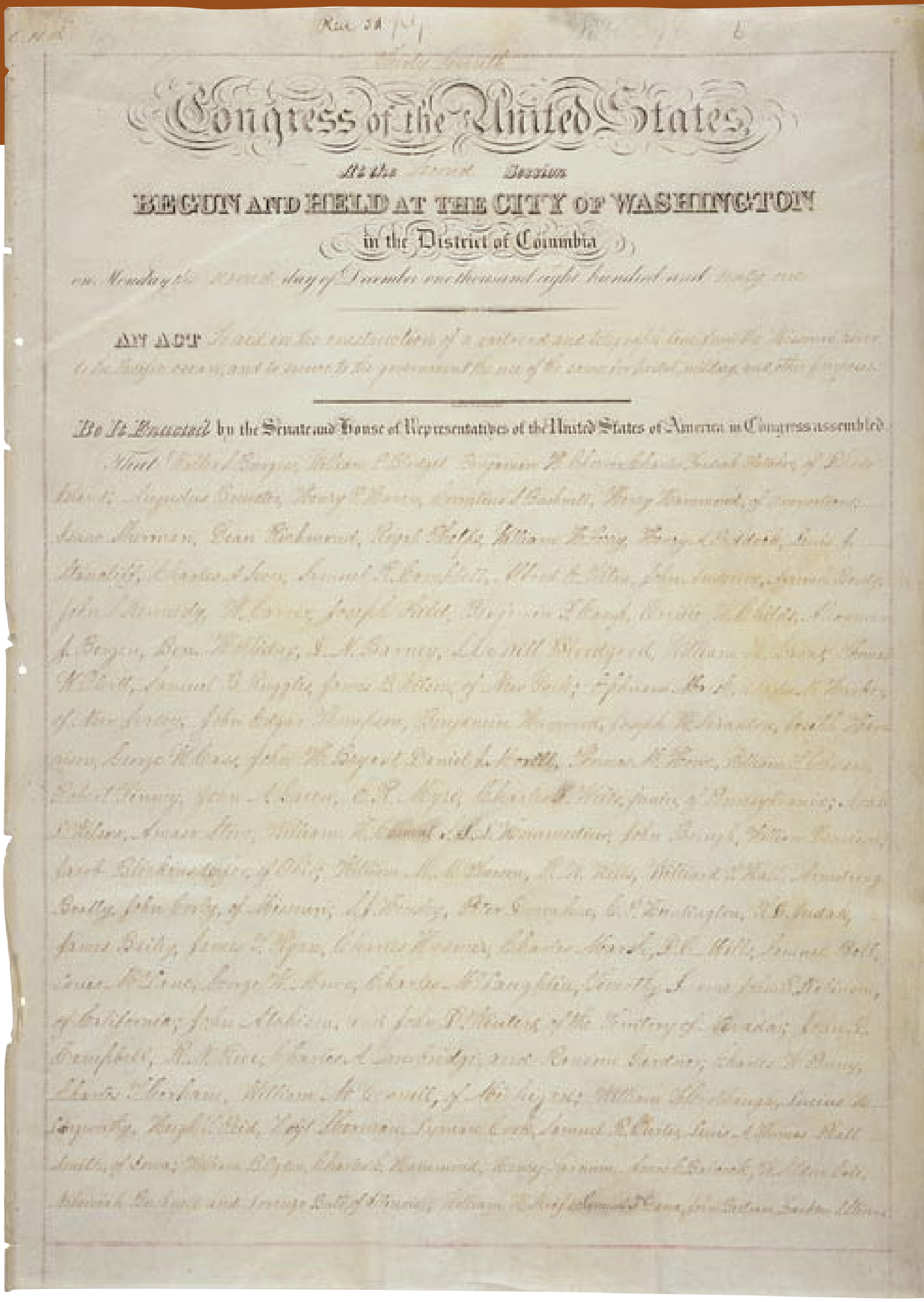
Observers who marvel at the far-reaching nature of the legislation passed by the 111th Congress that met from January 2009 to December 2010 may be even more amazed at the ground-breaking actions of the 37th Congress. That group of representatives met in four separate sessions from March 1861 to March 1863, and passed several acts that profoundly changed the federal government's involvement in many aspects of the nation's business.

The 35th and 36th Congresses had passed 129 and 157 public acts and resolutions, respectively. The 37th Congress passed 428, while its successor extended or passed another 411. Many related not to contingencies of the on-going Civil War, but to unfinished Republican Party business left over from pre-war legislative sessions. Without representatives from 11 states that had seceded and formed the Confederate States of America (CSA), the 37th Congress passed landmark legislation such as the Revenue Act, Legal Tender Act, Homestead Act, Morrill Act, National Banking Act and Pacific Railway Act, creating what historian Leonard Curry has labeled "a blueprint for modern America" that is still visible some 150 years later.

The Homestead Act

Congress began authorizing the sale of public lands as a revenue-raising measure in 1796. For the next 30 years, settlers, authors, congressmen and emigrant societies called for the free distribution of public land to individuals and families who would establish homesteads. In 1832, President Andrew Jackson suggested the federal government no longer needed to rely on the sale of federal lands to generate revenue; indeed, he believed they should be sold at greatly reduced prices or given free to the states.

Interest in homesteading grew steadily, prompting political leaders to consider the



The first page of the Pacific Railway Act, 1862.

new idea of giving away federal lands to individuals who would promise to occupy and develop them. From 1841 to 1854, Congress passed laws giving squatters or settlers free land in Florida, Oregon and New Mexico; the laws required settlers to live on the land, fence-in much of it and bear arms to defend it. From 1844 to 1846, congressmen from four different states introduced different versions of a homesteading bill. None could generate enough interest to be brought to the floor of the House of Representatives or the Senate for a vote. In 1850, the five-man Senate Committee on Public Lands announced its opposition to homesteading, and its preference for continuing to raise revenue by selling public lands. Southern legislators approved of that decision; they had long been opposed to a homestead law, fearing that men who received free land as they settled the West would not be slaveholders and would oppose the extension of slavery to that territory.

Congressmen from both parties put homesteading on the back burner throughout much of 1850, as they argued over the extension of slavery and debated the set of bills that made up the Compromise of 1850. Later, the supporters of homesteading renewed their cause. In May 1852, the House approved a homestead bill by a vote of 107 to 56, split largely along sectional lines; the Senate took no action. That pattern of voting (large margins of approval in the House and no action in the Senate) was repeated in 1854, 1856 and 1859; nearly all Southern congressmen continued to vote against the bills.

In 1860, the House and Senate again considered homestead legislation, but did so in an atmosphere of unusual political dissonance. The argument over the extension of slavery into the territories had reached a critical stage. Republicans in both houses of Congress displayed heretofore unseen flexibility in approving compromise homestead legislation that incorporated many Southern-initiated elements they had refused to accept in previous years. In May, the House and Senate passed the same bill by large majorities; in June, Democratic President James Buchanan vetoed it. He called the bill unconstitutional (Congress had no power to give away land), unjust (it would devalue lands in older states) and discriminatory (unmarried citizens were not eligible for land grants but married immigrants were eligible). It was easy for contemporary political opponents to regard that action as one intended mainly to protect the political power of the slavocracy; if the President approved the bill, the anticipated influx of population in the Western territories would eventually reduce the importance of Southern legislators' votes in the House and the Senate.

The Republican Party made the passage of a homestead bill an important plank in its 1860 platform. In May 1862, both houses of Congress passed the Homestead Act after minimal debate, surprising no one. Soon after, President Abraham Lincoln signed it. The Act granted 160 acres of non-occupied and surveyed public land to individuals who promised to live on it for five years; those paying $1.25 per acre (for 160 acres) or $2.50 per acre (for 80 acres or less) could receive their title earlier. The Homestead Act had its critics, but it had its intended effect; individuals claimed and settled 285 million acres.

The Pacific Railroad Acts

Railroads began spreading throughout the country in the 1840s. In 1845, New York merchant Asa Whitney presented Congress a plan for a transcontinental railroad, i.e. one connecting the eastern railroad terminuses at the Missouri River with the Pacific Ocean. He described a private business enterprise, but requested Congress sell his company 80 million acres of public land for only $8 million. That same year, James Gadsden, president of the South Carolina Railroad Company, convinced a convention of Southern railroad promoters to support a transcontinental route from Memphis to San Diego by way of El Paso. Other groups of promoters proposed a northern route from the Great Lakes to the Columbia River, and a central route from St. Louis to San Francisco. For most of the next 15 years, sectional rivalries and financing issues tied up congressional legislators considering granting large areas of federal land for the construction of only one transcontinental railroad route.

In 1850, Congress first granted federal land in Illinois, Alabama and Mississippi for the construction of networks of railroads throughout those regions. Many Southerners were averse to that land-grant policy; moreover, those still championing a southern transcontinental route began squabbling over the Mississippi River port city selected as the eastern terminus, thus damaging their chances of obtaining congressional approval for their project. In 1855, Secretary of War Jefferson Davis conducted a congressionally mandated study of alternative transcontinental railroad routes. He concluded the southern route from Fulton, Arkansas to San Pedro, California was the shortest and most economical; most of the route lay over nearly level ground, and its highest peak was less than 6,000 feet compared to elevations as high as 10,000 feet for the central route.

Backers of the other routes suspected sectional favoritism; they were well aware that the territory along a southern route would be settled largely by Southern slaveholders intent on bringing that institution to the West. Indeed, that same year the Southern Commercial Convention meeting in Memphis stated that a southern rail route to the Pacific would be indispensable to the slave-holding states' prosperity. When those Southern states seceded from the Union and their representatives left Congress, it became clear that the remaining members of that body recognized the potential danger in building such a road through Confederate territory.

The members of the 37th Congress vigorously debated the details of their preferred route from Omaha to Sacramento, the terms of land grants and financial support they would authorize and the nature of government oversight of the project. Finally, in May 1862, the House and Senate both passed the Pacific Railroad Act; President Lincoln signed it the following month. That bill was complicated, with provisions describing federal land grants, government loans and funds for maintenance to be granted to the Union Pacific and Central Pacific Railroads. It required both railroad companies to raise specific amounts of capital from investors before beginning construction, not an easy task in the midst of a war. Both accomplished that task, but it took time; the Central Pacific was not able to break ground until January 1863, and the Union Pacific had to wait until December 1863.

Museum of American Finance

Senator John Sherman, proponent of the National Bank Act.

Building a railroad over thousands of miles of rough land proved to be a daunting task. The directors and commissioners of both railroads soon realized their organizations would need more funds than first anticipated; throughout 1864 they lobbied Congress for more government support. The legislators responded favorably, since they believed the Union needed a transcontinental railroad even more in 1864 than it had in 1862. Both houses of Congress approved bills calling for more government support; in July, President Lincoln signed another Pacific Railroad Act. That law approximately doubled the federal government's contribution to the private businesses building the transcontinental railroad. More importantly, it cemented the presence of that government in directing the activities of a new type of private enterprise, one whose purpose might involve a public good, but one that also sought to make a profit for its own shareholders.

The National Banking Acts

In the first half of the 19th century, the business of banking was loosely regulated; each state was free to create its own rules for opening and operating a bank. Most states allowed any group of individuals to establish a bank, providing they deposited a specific amount of state or federal bonds with the proper banking authority, and agreed to redeem their notes for specie upon demand. The bank could then issue a specific amount of notes, usually by making loans to borrowers, who would in turn use those notes as currency.

On the eve of the Civil War, the nation's circulating currency consisted largely of $200 million worth of bank notes issued by more than 1,500 state banks. The somewhat creaky and not perfectly reliable system (or non-system) of independent state banks had its flaws, and could be unstable in times of economic distress. Historians are still arguing over its true effectiveness. Nonetheless, it seemed capable of handling the country's financial needs. Southerners who recognized the need for state banks had long been opponents of a national bank. They had not been able to stop the establishment of the First or Second National Bank in the early 1800s; but since Andrew Jackson signed the death knell of the latter in 1833, they had continued to resent and resist the federal government's intrusion on their freedom to manage their own finances.

In the summer of 1861, Secretary of the Treasury Salmon P. Chase tried to raise the revenue he believed necessary to prosecute the Civil War by selling government bonds to state banks; he soon realized the futility of that plan and began thinking of alternate sources of financing. In December, he proposed a uniform national currency and a national banking system. His system called for newly-chartered national

banks to purchase US government bonds, and deposit a specified percentage of them with the new Comptroller of the Currency; the banks would then receive national bank notes they could lend to borrowers.

The debate over this idea was long and vigorous. In December 1962, President Lincoln broke the legislative logjam by signaling his support for a national currency and a system of national banks. In January 1863, Senator John Sherman, sponsor of the National Bank Act in that chamber, confirmed the administration's desire to centralize and control the issuance of currency and public credit; more broadly, he signaled the federal government's intention of becoming more influential in numerous aspects of the nation's business. In the final days of discussions, Senator Sherman, Secretary Chase and President Lincoln each placed more emphasis on the bill as an expression of federal sovereignty than a tool for monetary control.

In February, Congress passed and President Lincoln signed the National Bank Act. The new national banking system had plenty of flaws. There were several provisions in the law that seemed to have little to do with the overall need for a national banking system. They appeared instead to reflect the federal government's desire to control that system. For example, the law placed a limit of $300 million on the total amount of notes permitted to be issued by the new national banking system; it apportioned that amount to banks in accordance with population, bank capital and the business of each state. That provision made it hard for banks in sparsely populated areas in the South and West to satisfy their local demands for credit.

State banks did not respond favorably to the opportunity to affiliate themselves with the new national banking system. By November 1863, 133 new banks had applied for a national charter; only one state bank had applied for conversion. In addition to having concerns about certain financial and non-financial issues, state banks must have been apprehensive about the uncertain fate of the Union. Realizing those banks considered many provisions of the law quite onerous, Secretary Chase and Comptroller of the Currency Hugh McCulloch worked hard to shepherd a bill with many changes through the Congress; the President signed the new National Bank Act in June 1864.

By November 1864 there were 584 national banks; 168 represented conversions from state charters. Nevertheless, more than 1,100 state banks still refused to switch to national status. Some banks were dissuaded by the more stringent reserve requirements mandated for national banks; others saw no need to be part of the national system. At the end of that year, in order to assert the prominence of the federal government in controlling the system, the new Secretary of the Treasury, William P. Fessenden, suggested that Congress should enact legislation to "…induce the withdrawal of all other circulation than that issued under national authority."

After a lively debate, Congress included a provision in the Revenue Act of March 1865 raising the tax on state bank notes to 10%, effective in July 1866. Whether justified or not, that provision had its intended effect. During 1865, another 731 state banks decided they would be unable to remain competitive and switched their charters to the national status. By the end of 1866, the national banking system had replaced the antebellum assortment of state banks as the prominent lender to American businesses. More than 1,630 national banks had notes worth $276 million in circulation; the remaining 66 state banks had circulating notes worth $20 million.

The Republicans who controlled Congress and the Presidency during the Civil War took many actions to confront the greatest national crisis since the country's founding. In describing the Republican economic policies of that era, historian Heather Cox Richardson noted their desire to create "the greatest nation of the earth." This article has reviewed the evolution and impact of only a few laws enacted from 1861 to 1863 that inserted the federal government into new areas of the economy. Southerners who resigned from Congress in 1861 may not have realized the full impact of ceding the legislative ground to Northerners; Northerners who remained may not have realized the full extent of their power. There can be no doubt, however, that the Congress that met from March 1861 to March 1863 made a mark on history that no version of that body had made up until that time. $

On May 20, 1862, President Abraham Lincoln signed the Homestead Act, giving 160 acre freehold farms from the public domain to citizens who would live on them for five years. Settlers, like the family shown here in Custer County, Nebraska, left the East to pioneer in frontier country. Between 1862 and 1900, approximately 400,000 families received cheap land from the government.

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Sources

Currie, David P. "The Civil War Congress," *The University of Chicago Law Review* 73, (2006): 1131–1226.

Curry, Leonard P. *Blueprint for Modern America: Nonmilitary Legislation of the First Civil War Congress* (Nashville: Vanderbilt University Press, 1968).

Richardson, Heather Cox. *The Greatest Nation of the Earth: Republican Economic Policies During the Civil War* (Boston: Harvard University Press, 1997).

A Profitable Century of Prudence

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of the board of the bank. He instituted a program where students would work part time at the bank. "My father, a blacksmith, was also an early depositor at the bank," says Ross. "I started in 1949 in bookkeeping. We handled a lot of paper checks. I also ran a lot of errands, including hand delivering statements to customers."

Echoing the familiar theme of mutual support, Ross recalls that he heard first-hand from people in the community and at the bank that they all got through the Great Depression together. "If it had not been for the bank supporting the community, the whole area would have been devastated. That reciprocality continues to this day. We have been able to support each other even during the current fiscal crisis in the state." $

Gregory DL Morris is an independent business journalist based in New York. He is principal and editorial director of Enterprise & Industry Historical Research, and is an active member of the Museum's editorial board. He can be contacted at gdlm@enterpriseandindustry.com.

The Most Notable Figures in Fund History

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Under Ned Johnson's leadership, Fidelity has become one of the largest fund families in the nation and has been a constant innovator, both in the fund industry and financial services generally. In the mutual fund area, Fidelity led the industry's movement from distribution through broker-dealers to direct marketing; was one of the first fund families to enter the 401(k) market; and introduced a host of new products and services including check-writing on money market funds, tax-exempt money funds and sector funds that utilize hourly pricing. In the broader world of financial services, Fidelity introduced discount brokerage services and walk-in investor centers.

Fidelity has repeatedly transformed itself — from a traditional load fund group distributing fund shares through broker-dealers, to a no-load giant, to a broader service firm. Fidelity has been a training ground for all types of fund personnel, and the company has experts in every area of fund activity. The mutual fund industry is filled with executives who received their start and their training under Ned Johnson at Fidelity.

For these reasons, he is arguably the most important figure in modern fund history.

Paul G. Haaga, Jr., John J. Brennan, Terry K. Glenn and James S. Riepe

Defending the Mutual Fund Industry

From the time of the Investment Company Act in 1940, fund managers generally acquitted themselves well in serving fund shareholders. However, in 2003, due to the efforts of New York Attorney General Elliot Spitzer, it came to light that a number of fund groups had entered into arrangements with speculators, permitting them to trade fund shares in violation of stated policies. Speculators' gains came at the expense of other shareholders.

These revelations could not have come at a worse time for the fund industry. Many investors had lost substantial sums in the 2000–2003 bear market and were angry. The bear market had been followed by revelations of major corporate and accounting scandals, resulting in enactment of the Sarbanes-Oxley Act. Many saw mutual funds as the next area in need of reform. The Securities and Exchange Commission, the regulator of the fund industry, had been weakened by Spitzer's upstaging of the agency in connection with Wall Street research analysts. He now blamed the SEC for not detecting and thwarting the fund trading abuses.

Three Congressional committees held hearings on the abuses. Industry critics testified in favor of extreme measures, such as requiring fund boards to put advisory contracts out to bid, requiring fund contracts to be cost-plus, requiring funds to internalize management when they reach a certain size, prohibiting funds from imposing new fees (and thus introducing new services) without prior SEC approval and prohibiting funds from advertising their past performance. Adoption of these measures would have homogenized, commoditized and dumbed down funds, to the great detriment of fund shareholders. Nevertheless, the press predicted that Congress would enact tough legislation.

Fortunately, the chairman of the Investment Company Institute was Paul Haaga, who was experienced, well-respected and tough. He had attended Princeton, obtained business and law degrees from the University of Pennsylvania and worked at the SEC and a law firm before joining the Capital Group in 1985.

Haaga led the industry in calling for strict enforcement of the law including criminal penalties, payment of full restitution to injured shareholders, and adoption of new SEC rules to combat illegal trading and other abuses. Haaga kept the industry united in favor of this program. He was assisted by the three prior Institute chairmen: Jack Brennan, Terry Glenn and Jim Riepe. The SEC acted swiftly and decisively. As a result of Haaga's leadership and the SEC's work, Congress determined not to enact punitive legislation that would have harmed the industry and fund shareholders. $

Matthew P. Fink is the author of the first history of mutual funds, The Rise of Mutual Funds: An Insider's View, *published by Oxford University Press. He has written numerous articles on funds and lectures on their history, regulation and current developments. He was with the association of the fund industry, the Investment Company Institute, from 1971 to 2004, and served as its president from 1991 to 2004. He may be reached at mainsailmd@verizon.net.*

Real Estate: The Bubble, The Bust and Beyond

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prices since 1830 and posts new housing data without a two-month lag found with other popular real estate indexes. Since 1960, when the WIREI crossed above its 20-month moving average, there was strong evidence that the bear market was reaching its end.

Similar to stock market volume, the number of new houses sold and the number of months they were on the market measure overall housing activity. Generally speaking, continuous increases in sales volume along with a dramatic decline in the amount of time it takes to sell a house precede any improvement in real estate prices. Over the last 60 years, housing bear markets ended when "Months for Sale" dropped below 3.5 months.

Unfortunately, the WIREI is still in a downtrend, nationwide sales activity is still weak and the average months to sell a new home is nine. It could easily take another year to dry up excess housing inventory and for mortgage credit to ease enough to stimulate new home purchases. $

Kenneth G. Winans (www.kenwinans.com) is a successful investment management entrepreneur and an award-winning author in finance and history. For 29 years, he has conducted landmark investment research and designed leading market indices in stocks and real estate. He is a regular guest on TV and radio shows nationwide and has had much of his work published as headline articles by leading websites, magazines and newspapers. He has been a trustee of the Museum of American Finance since 2009.

Money as Industrial Waste

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production through the use of technology and craftsmanship. In addition to creating the partlying process, the BEP also invented a way to reuse currency paper and, thereby, reduce new currency production in the early 20th century. Through its laundering process, the BEP was able to significantly reduce the amount of paper going into its macerator to be turned into pulp. Finally, the BEP has continually tried to find ways to recycle currency paper into a marketable product that could be used again. For many years, this was in the form of pulp. Yet, after the market for pulp collapsed, it took almost four decades for pulp to be replaced by shreds. So, for the BEP, we could replace "Reduce, Reuse, Recycle" with "Partly, Launder, Macerate/Shred." Though not as catchy, this phrase reflects a century of efforts by the BEP in recycling currency paper. $

Dr. Franklin Noll is president of Noll Historical Consulting, LLC, and historical consultant to the Bureau of Engraving and Printing, running its history program and conducting research on the history of the BEP, US currency, Treasury securities and the public debt.

Notes

1. "How Money is Made," *Scientific American,* 7 December 1872, 358.
2. "How Millions of Dollars are Destroyed Daily," *The Washington Post,* 22 November 1908; Bertram M. Cohen, "Make Mine Macerated," *Paper Money,* 30, 5 (Sept/Oct 1991): 154.
3. Mary Clemmer Ames, *Ten Years in Washington: Life and Scenes in the National Capital* (Hartford, CT: A.D. Worthington & Co., Publishers, 1876), 337.
4. Rodney Dutcher, "Daily Washington Letter," 5 July 1929. HRC newspaper clipping collection.
5. "The Government's Method of Destroying Counterfeits," T*he Washington Times,* 21 December 1902, 6; Franklin P. Smith, "How Uncle Sam Makes His Paper-Money," *Harper's Weekly,* 15 February 1890.
6. Dutcher.
7. Harold W. George, "The History of a Dollar Bill," *A Weekly Newsmagazine,* March 1892, 681.
8. Cohen, 154.
9. Smith.
10. Bureau of Engraving and Printing, *Annual Report of the Director,* 1886 (Washington, DC, 1887), 15–16.
11. Colleen Hennessey, "Macerated Currency: From Greenback to Novelty," *BEP Communicator,* December 2008, 8–9.
12. "Stop Making Souvenirs of Macerated Currency," *The Washington Times,* 29 March 1904, 12; *Rand McNally Washington Guide* (New York: Rand McNally & Co., 1916), 191.
13. "Clean Currency, and How to Get It," *The New York Times,* 13 April 1902.
14. Bureau of Engraving and Printing, *Annual Report of the Director,* 1911 (Washington, DC, 1912), 8.
15. *History of the Bureau of Engraving and Printing, 1862–1962* (Washington, DC, 1962), 78.
16. *Ibid.;* Senate, *Washed Money: The Counterfeiters' Delight,* 62nd Cong., 3rd sess., 1913, S. Doc. 1020, 6.
17. Bureau of Engraving and Printing, *Annual Report of the Director,* 1907 (Washington, DC, 1908), 20.
18. Bureau of Engraving and Printing, *Annual Report of the Director,* 1926 (Washington, DC, 1927), 15–16.
19. Bureau of Engraving and Printing, *Annual Report of the Director,* 1919 (Washington, DC, 1920), 21; *ibid.,* 1929, 3; *ibid.,* 1931, 4.
20. *Ibid.,* 1931, 9.
21. *Ibid.,* 1934, 11.
22. *Ibid.,* 1935, 10; *ibid.,* 1936, 12; *ibid.,* 1937, 45; *ibid.,* 1938, 15.
23. *Ibid.,* 1940, 10.
24. James Delay, "The Money Destroyers," *Life,* 2 February 1962.
25. Bureau of Engraving and Printing, *Annual Report of the Director,* 1943 (Washington, DC, 1944), 10.
26. *Ibid.,* 1945, 18; *ibid.,* 1946, 14; *ibid.,* 1952, 47.
27. "Concern Told to Stop Using Shredded Cash," *The New York Times,* 6 October 1981; Calvin Sims, "In Recycling of Greenbacks, New Meaning for Old Money," *The New York Times,* 22 May 22 1994.

Nerds on Wall Street

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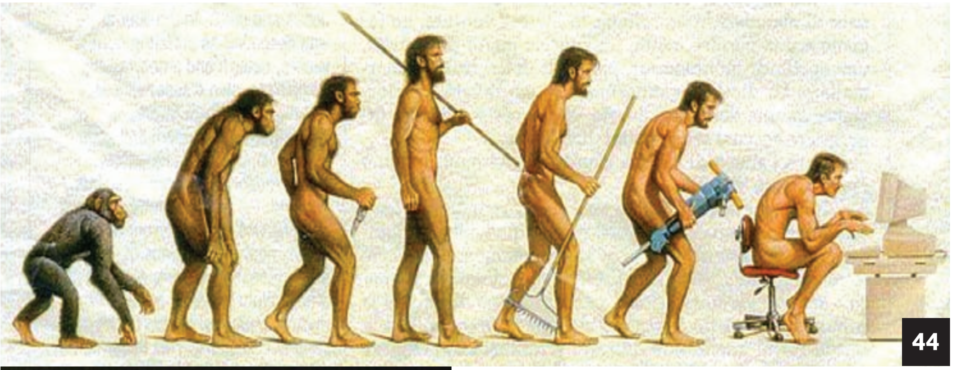


They have surpassed even telegraphy and ticker tape as a transformational market technology. The progress we've seen in computing technology that brought this about is really unprecedented. The rapid technology trajectories forecast by the laws of Moore and Metcalfe continue unabated.[2] 44

Electronic markets started back when the Internet was a gleam in someone's eye at the Defense Advanced Research Projects Agency (DARPA). Now the future of electronic finance is profoundly intertwined with the World Wide Web, removing intermediaries in services ranging from trading to research. A lot of people think the three great technological ideas in history are fire, the wheel and storing instructions as data. Based on the first 15 or so years of widespread use of the Internet, we might add the URL to the list.

All this innovation is what has brought us to where we are today, wired markets in a wired world — a global financial system made of bits. And, as we were reminded by the flash crash of May 2010 and the little ones that occur daily, there are some serious questions about how the investment business is going to cope with markets and market information in cyberspace. 45

Everything connects to everything else, if you want it to, and sometimes when you don't. There's more to this than just moving information around. Managing and trading assets in a world of fragmented electronic markets requires enormous technological expertise. Computer programs increasingly take over tasks from people, and people amplify their abilities using machines.

Along the path from hand signals to HFT, Watson and the World Wide Web, we've seen some remarkable market applications of technology. This isn't going to stop. We've come a long way since the traders moved from under the buttonwood tree into the Tontine Coffee House, but we've really just moved indoors in our use of information technologies. There is so much written about information overload that we have an information overload information overload. But as we have seen, technological patterns repeat, and understanding how this happened in the past helps us understand today's ever faster and more complex markets. 46 $

Notes

1. An excellent book comparing the development of the telegraph with the modern Internet is *The Victorian Internet* by Tom Standage (New York: Berkley Classics, 1999).
2. Moore's Law is the well-known doubling of computational power every 18 months. Metcalfe's Law is the less well-known maxim that the utility of a network grows as the square of the number of users.

David Leinweber, author of Nerds on Wall Street: Math, Machines and Wired Markets, *was recently named one of the "Top Ten Innovators of the Decade" by* Advanced Trading *magazine. As founder of two financial technology firms, and as manager of multi-billion dollar quantitative equity portfolios, he brings a practical approach to innovation. He is now principal of Leinweber & Co., and in a public service role, co-founder of the Center for Innovative Financial Technology at Lawrence Berkeley Lab.*

This article is improved and adapted from Nerds on Wall Street *and reprinted with permission from Wiley.*

HOW MUCH DO YOU KNOW ABOUT FINANCIAL HISTORY?

TRIVIA QUIZ

By Bob Shabazian

1. Of the 12 original stocks in the Dow Jones Industrial Average, three had "American" in their name, and two had "US." Can you name them?
2. Name the other seven stocks in the original DJIA.
3. Gold is stored at Fort Knox. During World War II, what other items were kept there?
4. Who said, "The chief business of the American people is business"?
5. What law created a new Consumer Financial Protection Bureau in 2010?
6. What does it cost the government to produce the following currencies: Sacagawea dollar coin, the $100 bill and the quarter, the $50 and $20 bills, the $10 and $5 bills, the dime and the nickel, the $1 bill and the penny?
7. Social Security presently has about 3.1 workers supporting each retiree. When Social Security was first created, how many workers supported each retiree?
8. Who said, "Any man who has to ask about the annual upkeep of a yacht can't afford one"?
9. What company, delisted from the New York Stock Exchange after almost a century on the Big Board, resumed trading on the Exchange in 2010?
10. What responsibility was assigned to the Bureau of Engraving and Printing in the early 1890s, decades after the Bureau was created in 1862?
11. The modern estate tax, when enacted in 1916, imposed a 10% tax on the portions of estates above what level?
12. When did the New York Stock and Exchange Board change its name to the New York Stock Exchange?
13. Who said, "A national debt, if it is not excessive, will be to us a national blessing"?
14. What were the largest percentage and point drops in the history of the Dow Jones Industrial Average?
15. What financial institution's logo depicts a six-horse stagecoach?
16. When the 10 millionth Model T. Ford rolled off Henry Ford's assembly line in 1925, how much did it cost?
17. Who wrote, "You have undertaken to cheat me. I won't sue you, for the law is too slow. I'll ruin you"?
18. The Computing-Tabulating-Recording Company later became what company?
19. Among large schools, what major university's endowment fund showed the best return (percentage-wise) during the fiscal year that ended June 2010?
20. Who was the major figure behind the creation of the world's first billion dollar corporation around the turn of the 20th century?
21. Who devised the "conduit" theory under which mutual funds generally are ignored for tax purposes and fund shareholders are treated as though they own portfolio securities directly?
22. In what year did the Dow Jones Industrial Average close above 100 for the first time?
23. What company, formed as an express mail business in 1850, moved into financial services by starting money order operations 32 years later?
24. What event in 1859 was a factor in the demise of the whaling industry in America?
25. What brand of car, introduced in 1926, was discontinued by General Motors after 84 years?

ANSWERS

1. American Cotton Oil, American Sugar and American Tobacco; and US Leather Preferred and US Steel **2.** Chicago Gas, Distilling and Cattle Feeding, General Electric, Laclede Gas, National Lead, North American and Tennessee Coal & Iron **3.** The Declaration of Independence and the US Constitution **4.** President Calvin Coolidge, in a speech to the American Society of Newspaper Editors in 1925 **5.** The Dodd-Frank financial reform law **6.** 30 cents, 11 cents, nine cents, eight cents, six cents, five cents and 1.5 cents, respectively. **7.** 40 workers **8.** John Pierpont Morgan **9.** General Motors **10.** The printing of postage stamps **11.** $50,000 **12.** 1863 **13.** Alexander Hamilton, in a 1781 letter to Robert Morris **14.** The largest single day percentage drop was 24.39% on December 12, 1914, declining 17 points to close at 54. The largest point drop was 777.68 on September 29, 2008. **15.** Wells Fargo **16.** $290 **17.** Cornelius Vanderbilt, in an 1853 letter to former business associates **18.** IBM **19.** University of Texas—its fund rose 16% to $14.1 billion. **20.** JP Morgan, who formed US Steel through the merger of several companies **21.** Merrill Griswold, head of Massachusetts Investors Trust **22.** 1906 **23.** American Express Co. **24.** The discovery of oil in western Pennsylvania **25.** Pontiac

Trivia Contest

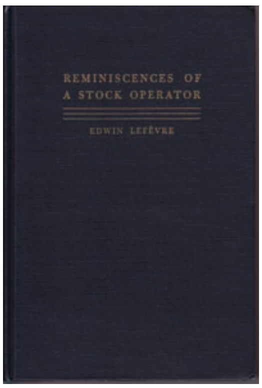
The following five questions have been previously published in *Financial History* magazine. Submit the correct answers to be entered in a drawing to win a FREE one-year Museum membership including a subscription to *Financial History*, unlimited free Museum admission, invitations to exhibit openings and special events and a 10% discount in the Museum Shop. Contest ends September 20, 2011.

1. When did the United States first start using the American dollar?
2. Which female broker ran for President of the United States in 1872?
3. Which industrialist and philanthropist said, "The man who dies rich dies disgraced?"
4. What document, signed in 1792, created the association of brokers that later became the New York Stock Exchange?
5. Where is the largest depository of gold in the United States?

Submit your entry via e-mail to editor@moaf.org, or mail to Museum of American Finance, Attn: Trivia Contest, 48 Wall Street, New York, NY 10005.

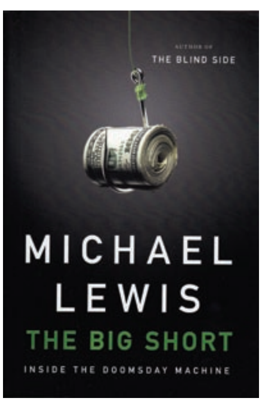
The Top 100 Financial History Books

as voted by members of the Museum, with commentary on selected books by Gregory DL Morris



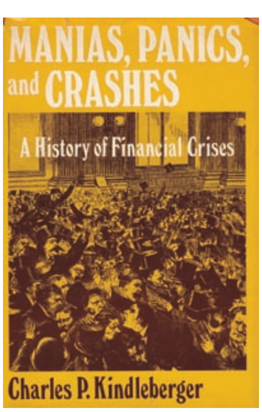
Title: Reminiscences of a Stock Operator
Author: Edwin LeFevre
Year of Publication: 1923

Still in print 88 years after first being published, there is no small irony that the top-ranked book on this list is, technically, fiction; nor that it exposes the wretched excess and carnival atmosphere of the financial markets. Has nothing changed? How far from this cautionary tale have we come? Michael Milken? Bernie Madoff? Those miscreants were real, as was trader Jesse Lauriston Livermore, the thinly-disguised subject of *Reminiscences*. In the tradition of Daniel Drew, Livermore was a bear raider, known as The Great Plunger, a sewer of fictional value and confidence. The quality of *Reminiscences*, however, is palpably real. The language, while a little dense, is redolent of the age, and the chapter format is practically a how-to guide.



Title: The Big Short
Author: Michael Lewis
Year of Publication: 2010

Journalism is called the first draft of history. This recent book, destined to become a definitive classic of our time, is one of those rare cases where the same reporter who did the original work also got to go back and finish the job. Lewis details—clearly and thoroughly—the backstory of how the demons of financial engineering like collateralized debt obligations were first summoned and then escaped into the wider economy. This is a brave and unapologetic work, proving two things: that people dealing with billions of dollars in someone else's money should take a Hippocratic Oath, and also that in some reporting there is no such thing as objectivity, only fairness. If that strays from the sepia-toned view of journalism then Lewis restores the luster with his exhaustive research and corroboration. Reading it is like reading *The Guns of August*: the outcome is known, but the venality and callousness that lead to it are gut-wrenching.



Title: Manias, Panics, and Crashes
Author: Charles P. Kindleberger
Year of Publication: 1978

To laugh or cry? Kindleberger is a mighty foil to the prevailing moods of the dismal science: even the best books on financial history tend to be deadly earnest or tediously self-righteous. *Manias* is clever, witty, wry. If we are all fools for love, we are also fools for money. To be sure, the scholarship is as rigorous as any other work on this list. But it is delightful in that all this insight and analysis comes through a light turn of phrase and fluid writing. Dick Sylla, chairman of the Museum's board of trustees,

Ahamed, Liaquat
Lords of Finance, 2009

Barnum, P.T.
The Art of Money Getting, 1880

Barskin, Jonathon and Miranti, Paul
A History of Corporate Finance, 1997

Berle, Adolf and Means, Gardner
The Modern Corporation and Private Property, 1932

Bernstein, Peter
Against the Gods, 1998

Bernstein, Peter
The Power of Gold, 2004

Bogle, John
Enough, 2008

Brock, Leslie
The Currency of the American Colonies, 1700–1764, 1975

Brooks, Robert
Once In Golconda, 1969

Burrough, Bryan and Helyar, John
Barbarians at the Gate, 1989

Carosso, Vincent
The Morgans, 1987

Chancellor, Edward
Devil Take the Hindmost, 2000

Chernow, Ron
Alexander Hamilton, 2004

Chernow, Ron
Titan, 2004

Clason, George S.
The Richest Man in Babylon, 1955

Clews, Henry
Fifty Years in Wall Street, 1908

Cohan, William D.
House of Cards, 2009

Dash, Mike
Batavia's Graveyard, 2003

De Roover, Raymond
The Rise and Fall of the Medici Bank, 1963

DePew, Chauncey M.
100 Years of American Commerce, 1895

Drucker, Peter
The Age of Discontinuity, 1969

Ferguson, Niall
The Ascent of Money, 2008

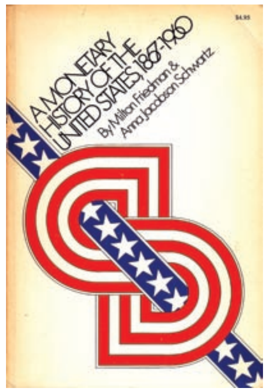
Ferguson, Niall
Colossus, 2005

Ferguson, Niall
Empire, 2004

Fisher, Irving
The Stock Market Crash and After, 1930

Fleming, Thomas
The Intimate Lives of the Founding Fathers, 2010

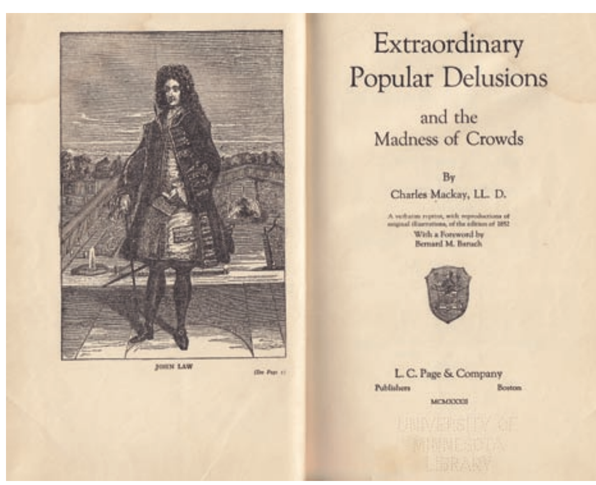
wrote of the current, fifth edition: "What long has been the best history of financial pathologies is now even better. The reader who absorbs Kindleberger's lessons will be prepared to foresee and navigate the financial crises that surely lie ahead. Like a true classic, *Manias* is both timely and timeless."



Title: A Monetary History of the United States, 1867–1960
Author: Milton Friedman and Anna Jacobson Schwartz
Year of Publication: 1963

Find "definitive" and "authoritative" in the dictionary and there will be a picture of this book. In March 2004 then Fed Governor Ben S. Bernanke delivered the H. Parker Willis Lecture in Economic Policy at Washington and Lee University in Lexington, Virginia. He said of this book, "Friedman and Schwartz offered important new evidence and arguments about the role of monetary factors in the Great Depression. In contradiction to the prevalent view of the time, that money and monetary policy played at most a purely passive role in the Depression, Friedman and Schwartz argued that 'the [economic] contraction is in fact a tragic testimonial to the importance of monetary forces.'" Bernanke's homage is remarkable in light of the fact that Friedman and Schwarz are fearless and assertive in their critique of the Federal Reserve through and after the Crash of 1929.

Friedman and Schwartz have brought to bear an incredible amount of historical data to support their analyses. And their central finding, that a calm hand in monetary policy and steady money supply, ring just as timely and relevant today as they did at the time when it was published. It bears noting that Chapter 7, *The Great Contraction*, was published on its own in 1965 by Princeton University. When was the last time that an economic treatise was issued as a popular paperback? Hugh Rockoff, professor of economics at Rutgers, wrote in January 1965, "If Great Depressions could be prevented through timely actions by the monetary authority (or by a monetary rule), as Friedman and Schwartz had contended, then the case for market economies was measurably stronger."



Title: Extraordinary Popular Delusions and the Madness of Crowds
Author: Charles Mackay
Year of Publication: 1841

In his introduction Mackay writes of "whims and peculiarities," as if he were referring to fashion or music. He then cites the Crusades and witch hunts as deadly examples of mania and social madness. This fondly familiar classic was the original financial history for broad audiences. The voice is avuncular, the tone gently chiding. Mackay finds our financial faults lie not within our stars but within ourselves. Still in print, it encourages investors in a solid Victorian mindset to rise above their base nature and be creatures of thought rather than instinctive fear and greed. The quotable line, to use a film reference is: "Men, it has been well said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one."

Fowler, William Worthington
Ten Years in Wall Street or, Revelations of Inside Life and Experience on 'Change, 1870

Fraser, Steve
Everyman a Speculator, 2005

Friedman, Milton
Capitalism and Freedom, 1962

Friedman, Milton and Schwartz, Anna Jacobson
A Monetary History of the United States, 1867–1960, 1963

Galbraith, John Kenneth
Money, 1975

Gambee, Robert
Wall Street: Financial Capital, 2002

Geisst, Charles
100 Years of Wall Street, 2000

Geisst, Charles
Wall Street: A History, 1997

Graham, Benjamin
The Intelligent Investor, 1949

Graham, Benjamin and Dodd, David
Security Analysis, 1934

Grant, James
Mr. Martket Miscalculates, 2008

Griffin, G. Edward
The Creature from Jekyll Island, 1994

Hammond, Bray
Banks and Politics in America from the Revolution to the Civil War, 1957

Homer, Sidney and Sylla, Richard
A History of Interest Rates, 2005

Johnson, Simon
13 Bankers, 2010

Kane, Thomas P.
The Romance and Tragedy of Banking, 1923

Kaufman, Henry
The Road to Financial Reformation, 2009

Kindleberger, Charles
Manias, Panics, and Crashes, 1978

Klein, Maury
Rainbow's End: The Crash of 1929, 2001

Kneen, Brewster
Invisible Giant, 1995

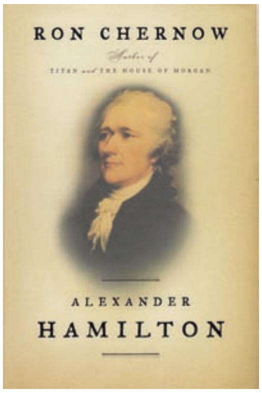
Koehn, Nancy (editor)
The Story of American Business, 2009

Kritzler, Edward
Jewish Pirates of the Caribbean, 2008

Lanier, Henry
A Century of Banking: 1822–1922, 1922

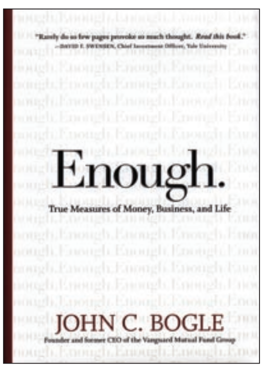
LeFevre, Edwin
Reminiscences of a Stock Operator, 1923

Levy, Leon and Linden, Eugene
The Mind of Wall Street, 2004



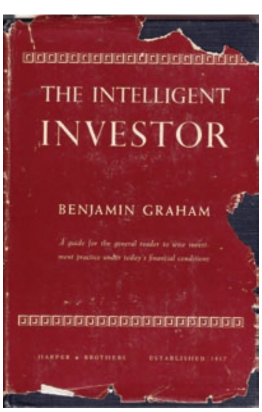
Title: Alexander Hamilton
Author: Ron Chernow
Year of Publication: 2004

When have 730 pages ever flown by so quickly? Hamilton is the patron saint of American enterprise, and here Chernow has given him the definitive biography. It tells enough of the times so that the life is related all the more finely. The writing is brisk and accessible, but is rich in vocabulary. Chernow is clearly an admirer of Hamilton, but the presentation is fair and balanced, not glossing over any of the man's misjudgments. Other biographers have tended to emphasize Hamilton's war record — he led the charge at Yorktown — and on the battles over assumption. Chernow honors those but gives full glory to Hamilton's role as President Washington's most trusted advisor, and also as a key enabler of the Constitution—far beyond just his role in writing the Federalist Papers. (See full review in *Financial History*, issue 86, Fall 2004.)



Title: Enough: True Measures of Money, Business, and Life
Author: John C. Bogle
Year of Publication: 2008

Like Theodore Roosevelt, John Bogle is both a wealthy man, and a harsh critic of the malefactors of great wealth (as TR called them). For the founder of the multi-squillion-dollar Vanguard Funds, Bogle decries the "counting culture" in America. He delights in calling earnings-per-share, slavishly followed as The Number, as essentially fictitious. Bogle talks about character, and societal issues and outrage. Bogle lays bare the insatiable avarice that drives financial operators to ever-greater levels of cost and complexity. Not the kind of thing that Captains of Industry usually bother with. Yet no less a stalwart than *Barron's* praised *Enough,* saying it it was "a rabble-rousing, world-changing work like *Common Sense* and *The Communist Manifesto*."



Title: The Intelligent Investor
Author: Benjamin Graham
Year of Publication: 1949

Before there was Buffett, there was Graham. First published in 1949, the Sage of Omaha read it the following year when he was 19 and has since called it "by far the best book on investing ever written." The revised edition, updated and featuring commentary from Jason Zweig, member of this magazine's editorial board, is indeed enhanced with contemporary examples and perspectives. Still, it is the timeless simplicity, the elemental nature of value investing, that is the bedrock of Graham. In sharp contrast to the popular guides for "dummies" and "idiots" today, Graham treats his readers with respect. Chapters 16, "Four Extremely Instructive Case Histories," and 17, "A Comparison of Eight Pairs of Companies," could easily be read just for fun. It might also be noted that with more than a million copies in print, this durable and modest effort has in all likelihood outsold all the other 99 books on the list combined.

Lewis, Michael
The Big Short, 2010

Lewis, Michael
Liar's Poker, 1989

Lewis, Reginald; Walker, Blair and Price, Hugh
Why Should White Guys Have All the Fun?, 1994

Little, Jeffery and Rhodes, Lucien
Understanding Wall Street, 1991

Livingston, J.A.
The American Stockholder, 1958

Lowenstein, Roger
When Genius Failed, 2000

Mackay, Charles
Extraordinary Popular Delusions and the Madness of Crowds, 1841

Maybury, Richard
What Ever Happened to Penny Candy? (5th Ed), 2004

Mayer, Martin
The Greatest-Ever Bank Robbery, 1990

Mayer, Martin
The Bankers, 1974

McDonald, Lawrence G.
A Colossal Failure of Common Sense, 2009

McElvaine, Robert S.
The Gret Depression, 1984

McGee, Suzanne
Chasing Goldman Sachs, 2010

McLean, Bethany and Elkind, Peter
The Smartest Guys in The Room, 2004

Medbery, James Knowles
Men and Mysteries of Wall Street, 1870

Moody, John
The Art of Wise Investing, 1904

Niall, Ferguson
High Financier, 2010

Partnoy, Frank
The Match King, 2009

Prestbo, John
Markets Measure, 1999

Rizek, Martin and Medvecky, Barbara; Joanne
The Financial District's Lost Neighborhood, 2004

Rogoff, Kenneth and Reinhart, Carmen
This Time Is Different: Eight Centuries of Financial Folly, 2009

Schwed, Jr., Fred
Where Are the Customers' Yachts?, 1940

Shaw, Bernard
The Intelligent Woman's Guide to Socialism and Capitalism, 1928

Shiller, Robert
The New Financial Order, 2003

Shorto, Russell
The Island at the Center of the World, 2005

Slack, Charles
Hetty, 2005

Smith, Adam
The Money Game, 1968

Smith, Adam
The Wealth of Nations, 1776

Smith, Martin Hale
Twenty Years Among the Bulls and Bears of Wall Street, 1870

Sobel, Robert
The Great Bull Market, 1968

Sobel, Robert
The Money Manias, 1973

Steele Gordon, John
The Great Game, 2009

Steele Gordon, John
An Empire of Wealth, 2004

Steele Gordon, John
Hamilton's Blessing, 1998

Steele Gordon, John
A Thread Across the Ocean, 2002

Stewart, James
Den of Thieves, 1991

Stiles, T.J.
The First Tycoon, 2009

Strouse, Jean
Morgan: American Financier, 1999

Taleb, Nassim Nicholas
The Black Swan, 2007

Tarbell, Ida
The History of the Standard Oil Company, 1904

Walker, David M.
Comeback America, 2010

Winans, Kenneth G.
Investment Atlas, 2008

Wright, Robert E.
The First Wall Street, 2005

Wright, Robert E.
One Nation Under Debt, 2008

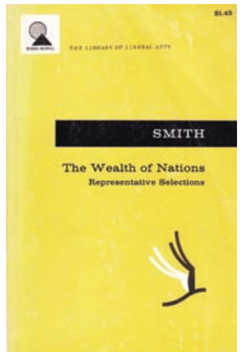
Wright, Robert and Cowen, David
Financial Founding Fathers, 2006

Yergin, Daniel
The Prize, 1991

Zuckerman, Gregory
The Greatest Trade Ever, 2010

Zuckoff, Mitchell
Ponzi's Scheme, 2006

Zweig, Jason
The Little Book of Safe Money, 2009



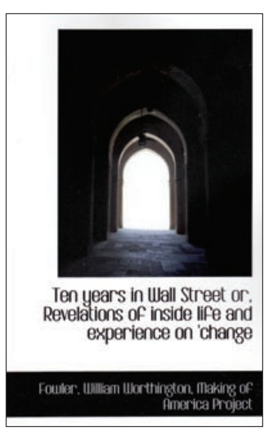
Title: The Wealth of Nations
Author: Adam Smith
Year of Publication: 1776

The granddaddy of them all. Literally an epic when the ink was still wet on the Declaration of Independence, the first printing sold out in mere months. This is the fountainhead from which all the others spring. It influenced the American and French Revolutions. It is to economics what Newton was to mathematics and Darwin to biology. Of all the 100 books listed here, it is the one most likely to be familiar to a person on the street. To the people in The Street, and in The City, it is secular scripture. To be sure, the writing is in and of its time. Economics as a discipline did not exist, and the term capitalism had to await its coining by Marx. So the reading can be slow going. But this is granular. The essential, elemental principles are identified and their interactions detailed. Modern critics note that there are internal inconsistencies, which is true. But like physicists testing Einstein, the harder the critics work to prove one small point in error, the more they uphold the greater body of the work.

In a rebuke to goldbugs of his era, and to this day, the opening and foundational tenet of Smith's work is that the labor, sorry: labour, of a nation is its wealth. Specifically that was the direct output of that labor — the foodstuffs, clothes, iron and coal — or the ready money that could be earned through the sale of those goods and services. Specifically Smith asserted that the wealth of a nation was not the gold in its vaults. At the time that was a heretical notion.

It is ironic that Smith's notion of commerce as wealth, the velocity of an economy, people getting and spending, has often been lost over the years. Indeed it has been rediscovered several times, notably in the book *The Mystery of Capital* by Hernado DeSoto.

In another irony, Smith is claimed as a pioneer by some socialists as well as by some disciples of utilitarianism. By asserting the essential function of active production rather than passive hoarded bullion, Smith informed some Marxist thought. But Smith also saw consumption as the great driver of economies, an idea that is manifest in an array of free marketers from Ayn Rand to Ronald Reagan.



Title: 10 Years in Wall Street
Author: William Worthington Fowler
Year of Publication: 1870

A magnificent first-hand account, teeming with period color and featuring one of the most beautiful passages ever written on any subject: "No one who has entered the precincts of the stock exchange will have failed to notice certain nondescripts who constantly frequent the market. They are men who have seen better days, but having dropt their money in the street, come there every day as if they hoped to find it in the same place. These characters are the ghosts of the market, fixing their lack-lustre eyes upon it, and pointing their skinny fingers at it, as if they would say, 'thou hast done this!' They flit about the door-ways, and haunt the vestibules of the exchange, seedy of coat, blackingless of boot, unkempt, unwashed, unshorn, wearing on their worn, haggard faces a smile more melancholy than tears."

Gregory DL Morris is an independent business journalist based in New York. He is principal and editorial director of Enterprise & Industry Historical Research, and is an active member of the Museum's editorial board. He can be contacted at gdlm@enterpriseandindustry.com.

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